

THEISTIC EVOLUTION

A Scientific, Philosophical, and Theological Critique

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Foreword by Steve Fuller

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SECTION I: THE SCIENTIFIC CRITIQUE OF THEISTIC EVOLUTION

Section I, Part 1: The Failure of Neo-Darwinism

- 1 Three Good Reasons for People of Faith to Reject Darwin's
Explanation of Life

Douglas D. Axe

People of faith should reject the call to affirm the Darwinian explanation of life and should instead affirm the traditional understanding of divine creative action, which defies reduction to natural causes. There are three good reasons for this. (1) Acceptance of Darwinism carries a substantial apologetic cost. Specifically, if Darwin was right that life can be explained by accidental physical causes, then we must forfeit the claim that all humans are confronted by God's existence when we

behold the wonders of the living world. (2) *All* accidental explanations of life, whether Darwinian or not, are demonstrably implausible. (3) The common justifications for accommodating Darwin's theory within the framework of traditional faith are confused.

2 Neo-Darwinism and the Origin of Biological Form and Information

Stephen C. Meyer

According to textbook neo-Darwinian theory, new genetic information arises first as random mutations occur in the DNA of existing organisms. When mutations arise that confer a survival advantage on the organisms that possess them, the resulting genetic changes are passed on by natural selection to the next generation. As such changes accumulate, the features of a population begin to change over time. Nevertheless, natural selection can only "select" what random mutations first produce. And for the evolutionary process to produce new forms of life, random mutations must first have produced new genetic information for building novel proteins. Since the late 1960s, however, mathematicians and molecular biologists have argued that producing new functional genes (new genetic information) and proteins via a random mutational search is improbable in the extreme.

Nevertheless, until recently it was impossible to precisely quantify the magnitude of this problem and, thus, to assess the plausibility of a random search for novel proteins among all the possible amino acid sequences. Recent experiments on proteins performed by Douglas Axe and others, however, have shown in a precise quantitative way that functional genetic sequences (and their corresponding proteins) are indeed too rare to be accounted for by the neo-Darwinian mechanism of natural selection sifting through random genetic mutations. The "space" or number of possible arrangements are simply too vast, and the available time to search by undirected mutation too short for there to have been a realistic chance of producing even one new gene or protein by undirected mutation and selection in the time allowed for most evolutionary transitions. This chapter develops this argument, and other closely related arguments, against the creative power of the main evolutionary mechanism and responds to the most prominent objections to these arguments.

3 Evolution: A Story without a Mechanism

Matti Leisola

At best, science is a search for truth about nature—how it functions and changes. At worst, it is a search for only naturalistic explanations for life's history. Is biology best explained by randomness or by a regulating intelligence? Can science prove one of the options to this philosophical question wrong? Several lines of experimental evidence show that novel functional genes and proteins cannot be formed *de novo* by chance processes. But can novel functional genes, proteins, or novel organisms be produced from existing ones by random methods? Individual genes, proteins, and microorganisms are easy to manipulate; they can be produced in large quantities and changed to the extreme in a laboratory—much more than could ever be happening in nature. Thus the laboratory experiments using random evolutionary methods are intelligently designed to study the limits of what randomness can do in biology—not what actually can happen in real life. The results of such experiments give a definite answer: there are narrow limits to the changes that random processes can achieve. They can never convert one gene to a basically different gene, one protein structure to a different structure, nor one microorganism to a different one. Thus evolution is a story without a mechanism, and adding the word “theistic” to it adds nothing to its explanatory power.

4 Are Present Proposals on Chemical Evolutionary Mechanisms Accurately Pointing toward First Life?

James M. Tour

Abiogenesis is the prebiotic process wherein life, such as a cell, arises from nonliving materials such as simple organic compounds. Long before evolution can even begin, the origin of first life, that first cell, would have to come from some simpler nonliving molecules. On Earth, the essential molecules for life as we know it are carbohydrates (also called sugars or saccharides), nucleic acids, lipids, and proteins (polymers of amino acids). Described is the process by which organic synthesis is performed, and the considerations that are generally required to synthesize a complex system where many molecular parts come together to operate concertedly. This will be demonstrated

in the synthesis of nanomachines. Then considered will be some proposals that others have espoused for the synthesis of carbohydrates and carbohydrate-bearing nucleotide bases, from a prebiotic milieu. Briefly mentioned will be the obstacles to the much more difficult task of having the molecular building blocks assemble into a functional system. Not considered are scientifically unknown entities that have been proposed to have seeded life on Earth, such as a design agent or panspermia. An opinion will be rendered showing that the strongest evidence against the proposals of current prebiotic research is the researchers' own data. The current proposals can retard the field from discovering the scientific solutions since they seem to be directing researchers down paths of futility.

5 Digital Evolution: Predictions of Design

Winston Ewert

Computer simulations of evolution are often invoked in defense of the abilities of Darwinian evolution. A number of well-known simulations are discussed, showing how they follow the predictions of intelligent design in requiring teleological fine-tuning in order to work. This and other predictions of intelligent design have been confirmed by simulations, whereas Darwinian evolution offers no predictions about computer simulation and is thus unfalsifiable.

6 The Difference It Doesn't Make: Why the "Front-End Loaded" Concept of Design Fails to Explain the Origin of Biological Information

Stephen C. Meyer

Insofar as theistic evolution has been formulated with enough specificity to qualify as an alternative to neo-Darwinism as a scientific model, theistic evolutionists have typically affirmed that God created the universe and designed the laws of nature (including their finely tuned features). But having done so, they think that the origin of life and the origin of new forms of life can be explained by "secondary causes," which they equate with the laws of nature and evolutionary mechanisms such as natural selection and random mutation. Thus, their view either entails the claim that the initial conditions of matter at the beginning of the universe and the fine-tuned laws and constants of physics

contained all the information necessary to produce life, or it entails the view that the random mutation and natural selection (or some similarly materialistic mechanism) added significant amounts of new information into the biosphere since the Big Bang. The problems with the latter view are shown in chapters 2 and 8; this chapter demonstrates scientifically that the former view cannot be correct either, despite the claims of certain theistic evolutionists who argue for a “front-end loaded” concept of design that they call “teleological evolution.” In this view, the information necessary to produce life was present from the beginning of the universe. This chapter contends that this “front-end loaded” concept of design is scientifically inadequate because it fails to recognize that the laws of nature do not describe information-generating processes.

7 Why DNA Mutations Cannot Accomplish What Neo-Darwinism Requires

Jonathan Wells

According to neo-Darwinism, evolution takes place because of the natural selection of slight, successive variations. Some of those variations may arise through the reshuffling of existing DNA sequences, but for continuing evolution, neo-Darwinism requires that existing DNA sequences mutate into new sequences. This assumes that DNA contains a program for embryo development: DNA makes RNA makes protein makes us. Mutations in the program could then produce novel anatomical structures, and natural selection could preserve favorable ones and eliminate unfavorable ones. But DNA sequences do not even fully specify RNAs, much less proteins. And the three-dimensional arrangement of proteins in a cell requires spatial information that precedes their synthesis and is specified independently of DNA. Therefore, DNA does not contain a program for embryo development, and mutations in DNA cannot provide the raw materials for anatomical evolution.

8 Theistic Evolution and the Extended Evolutionary Synthesis: Does It Work?

Stephen C. Meyer, Ann K. Gauger, and Paul A. Nelson

For nearly two decades, many evolutionary biologists have been working to formulate new theories of evolution, in part because

of the recognition that neo-Darwinian mechanisms cannot explain the origin of living things. These new ideas supposedly have more creative power than mutation and natural selection alone. This chapter will examine these new evolutionary theories and mechanisms and will show that the so-called “extended synthesis” has also not succeeded because it does not account for the origin of biological form and information. The “extended synthesis” leaves unanswered many of the same problems as neo-Darwinism and raises the same question to theistic evolutionists. Why insist on synthesizing Christian theology, or a biblical understanding of creation, with a scientifically failing theory of origins?

9 Evidence from Embryology Challenges Evolutionary Theory
Sheena Tyler

How does an egg develop into the distinctive body form of an elephant, as opposed to a grasshopper or a kangaroo? It remains a mystery to this day how these body forms are generated. This is a major problem for evolutionists, because their claim that the various forms of life arose by changes in a common developmental program depends on knowledge of this elusive program. This chapter will demonstrate how embryological processes exhibit the hallmarks of intelligent design rather than the tinkering of blind, random mutations required by evolutionary theory. It will also illuminate evidences from embryology that point to distinct types of life, which exhibit fundamental differences in design between them, rather than a continuous gradation of forms tracing back to a primitive common ancestor.

Section I, Part 2: The Case against Universal Common Descent and for a Unique Human Origin

10 The Fossil Record and Universal Common Ancestry
Günter Bechly and Stephen C. Meyer

This chapter is the first of three examining the strength of the case for universal common descent, the second (historical) part of contemporary evolutionary theory and the part of evolutionary theory that theistic evolutionists most commonly defend. We begin in this chapter by examining the logical structure of the

argument for universal common descent. Taking that structure into account, we then assess what the fossil record can tell us about whether all forms of life do, or do not, share a common ancestor. Theistic evolutionists often claim that the alleged common ancestry of all forms of life is a “fact”—even as they may acknowledge doubts about the creative power of the neo-Darwinian mechanism. Nevertheless, we have become skeptical about universal common descent. In this chapter, we explain why using the fossil evidence to illustrate how a scientifically informed person might reasonably come to doubt the arguments for universal common descent (or universal common ancestry). After first describing the aspects of the fossil evidence that the theory of universal common descent explains well, we then examine other aspects of the fossil record that the theory does not explain as well—or at all. We especially highlight the many discontinuous or abrupt appearances of new forms of life in the fossil record—a pattern that contradicts the *continuous* branching tree pattern of biological history postulated by proponents of universal common descent.

11 Universal Common Descent: A Comprehensive Critique

Casey Luskin

Some theistic evolutionists will occasionally acknowledge problems with the mechanism of mutation and natural selection, but almost all theistic evolutionists claim that the historical part of Darwinian theory—universal common descent—is beyond dispute. Since Darwin’s time, the theory of universal common descent has rested upon a number of independent lines of evidence and argument: biogeography, fossils, anatomical homology, and embryological similarity. In recent decades, molecular homology has been added to that list. This chapter will show that each of these separate lines of evidence is equivocal at best and that, instead, many new lines of evidence cast serious doubt upon the supposed “congruence” of these lines of evidence, challenging the case for universal common descent.

12 Five Questions Everyone Should Ask about Common Descent

Paul A. Nelson

According to the theory of universal common descent (UCD), all organisms on Earth have descended by modification from a

common ancestor, dubbed the “last universal common ancestor” (LUCA). Within the past twenty years, however, a growing number of evolutionary biologists have expressed doubts that LUCA ever existed. Their skepticism of LUCA and hence of UCD rests on an important rule of biological inference known as the principle of continuity. The principle of continuity holds that every step in any evolutionary pathway must be biologically possible. This principle actually challenges UCD, or the tree of life, not only at its base but throughout its branches as well. Five key questions should be asked of any hypothesis of common descent, to make sure that the hypothesis answers the demands of the principle of continuity, and also to examine the larger context within which UCD lives as a biological and historical theory. UCD should not be maintained as an axiom, but should be vulnerable to evidential challenges, like any other scientific theory.

13 The Battle over Human Origins (Introduction to Chapters 14–16)

Ann K. Gauger

The origin of humanity—where we came from—is an issue with many ramifications. It impacts our self-understanding in multiple ways. Did we evolve from a common ancestor shared with chimps, or might we have a unique origin? Mainstream science says that it is incontrovertible that we are the product of evolution. Is it therefore necessary to adapt our understanding of Scripture, or might the science be overstated? This short chapter, along with chapters 14–16, will argue that the question of our origin is far from settled, and that there are scientific arguments to be made in favor of a unique origin for humanity. There is no need to change traditional scriptural interpretations based on inconclusive science.

14 Missing Transitions: Human Origins and the Fossil Record

Casey Luskin

The standard evolutionary view of human origins—generally accepted by theistic evolutionists—holds that our species, *Homo sapiens*, evolved from ape-like species through apparently unguided evolutionary processes like natural selection and random mutation. Theistic evolutionists and other evolutionary scientists often claim the fossil evidence for this Darwinian evolu-

tion of humans from ape-like creatures is incontrovertible. But their viewpoint is not supported by the fossil evidence. Hominin fossils generally fall into one of two groups: ape-like species and human-like species, with a large, unbridged gap between them. Virtually the entire hominin fossil record is marked by fragmented fossils, especially the early hominins, which do not document precursors to humans. Around 3 to 4 million years ago, the australopithecines appear, but they were generally ape-like and also appear in an abrupt manner. When our genus *Homo* appears, it also does so in an abrupt fashion, without clear evidence of a transition from previous ape-like hominins. Major members of *Homo* are very similar to modern humans, and their differences amount to small-scale microevolutionary changes. The archaeological record shows an “explosion” of human creativity about thirty to forty thousand years ago. Despite the claims of evolutionary paleoanthropologists and the media hype surrounding many hominin fossils, the fragmented hominin fossil record does not document the evolution of humans from ape-like precursors, and the appearance of humans in the fossil record is anything but a gradual Darwinian evolutionary process. Theistic evolutionists should appreciate that Christians who doubt standard evolutionary accounts of human origins hold legitimate views that are backed by scientific evidence.

15 Evidence for Human Uniqueness

Ann K. Gauger, Ola Hössjer, and Colin R. Reeves

Scientists claim that our extreme genetic similarity with chimps (on the order of 98.7 percent identity) indicates we share common ancestry. This statement neglects several facts. First, our genetic differences are larger than that number represents. Common estimates of similarity are based on comparisons of the *single nucleotide changes only*, while other kinds of genetic differences are disregarded. In addition, noncoding regions of DNA—long thought to be nonfunctional “junk”—contain many kinds of genetic regulatory elements, some of which are species-specific. These species-specific regulatory elements make up a very small proportion of the total count of differences, but have a significant effect on how our genome works. For example, many of these regulatory elements are known to affect gene expression in the brain. Taken together, these species-specific

genetic differences contribute to our anatomical and physiological differences with chimps. In addition, there is not enough evolutionary time for all these coordinated changes to have happened by the mutation/selection process. Thus the evidences for common ancestry put forward by various scientists are not as solid as they might seem. The more we learn about our human genome, the more it seems to be brilliantly and uniquely designed.

16 An Alternative Population Genetics Model

Ola Hössjer, Ann K. Gauger, and Colin R. Reeves

What can be said about human history from DNA variation among us today? Population genetics is used in academia to infer that we share a common ancestry with apes; that most of our human ancestors emigrated from Africa fifty thousand years ago; that they possibly had some mixing with Neanderthals, Denisovans, and other archaic populations; and that the early Homo population was never smaller than a few thousand individuals. It uses mathematical principles for how the genetic composition of a population changes over time through mutation, natural selection, genetic drift, and other forces of change. In this chapter we investigate the assumptions about this theory and conclude that it is full of gaps and weaknesses. We argue that a unique origin model, where humanity arose from one single couple,¹ seems to explain data at least as well, if not better. We finally propose an alternative simulation approach that could be used in order to validate such a model.

17 Pressure to Conform Leads to Bias in Science

Christopher Shaw

Science has become all-pervasive in modern society and is regarded by many as the means to solve all of our major problems. For many, science has become a new religion, endowed with an infallibility extending even to answering the fundamental questions about our origins and the purpose of our existence—questions that once were the subject matter of philosophers and

1. The use of the term “first couple” will undoubtedly raise the issue of Adam and Eve in the reader’s mind. We the authors each have our own views on the reading of Genesis. Our goal here is to show that the argument against a historical Adam and Eve made by some scientists is not justified by the scientific evidence, and that there is a real possibility of a founding first pair.

religious scholars. As a consequence of this new role, the scientific process has been increasingly departing from its objective basis to one of crass subjectivity, with regular highly speculative claims being made by renowned scientists in the popular media and even in the scientific press. Phrases such as “I/We believe that . . .” have become common among some scientists, particularly in the fields of evolutionary biology and cosmology. The “high priests” of this new religion—we’ll call it “scientism”—are the worst offenders, and many have achieved international celebrity status. But there is also a largely unknown dark side to this new religion: control of the freedom of thought. As acknowledged by the majority of scientists, the allocation of research funding and the peer-review system of scientific publication are both seriously flawed and serve to maintain the *status quo* within the establishment by filtering out perceived intellectual heretics. New thoughts, ideas, and insights are often viewed with suspicion and require evaluation not only of their worth but also, increasingly, of their potential to challenge widely accepted dogma. Indeed, this has been an almost universal experience in the early, ridicule-fraught careers of most Nobel laureates in the sciences. New recruits to the system must obey the rules if they wish to obtain training positions, tenure, and career progression.

SECTION II: THE PHILOSOPHICAL CRITIQUE OF THEISTIC EVOLUTION

18 Why Science Needs Philosophy

J. P. Moreland

We shall explore two philosophical theses from philosopher George Bealer that illuminate ways in which philosophy is relevant to science, especially to the debate about theistic evolution versus intelligent design:

- (1) The *autonomy of philosophy*: Among the central questions of philosophy that can be answered by one standard theoretical means or another, most can in principle be answered by philosophical investigation and argument without relying substantively on the sciences.
- (2) The *authority of philosophy*: Insofar as science and philosophy purport to answer the same central philosophical

questions, in most cases the support that science could in principle provide for those answers is not as strong as that which philosophy could in principle provide for its answers. So, should there be conflicts, the authority of philosophy in most cases can be greater in principle. (See below for attribution.)

The “autonomy of philosophy” refers to areas of philosophical investigation that lie completely outside the competence of science. The “authority of philosophy” refers to areas which both science and philosophy investigate, where the philosophical factors carry more weight than and trump those of science. I list key examples of both that are relevant to setting the intellectual context for debating the relative merits of theistic evolution versus intelligent design.

19 Should Theistic Evolution Depend on Methodological Naturalism?

Stephen C. Meyer and Paul A. Nelson

Nearly all theistic evolutionists say that some naturalistic process will eventually explain the origin of novel forms of life. They do so because they accept a philosophical rule known as *methodological naturalism*. Methodological naturalism asserts that, to qualify as scientific, a theory must explain by strictly physical or material—that is, non-intelligent or non-purposive—causes. This chapter shows that, as a supposedly neutral rule for how science *should* function, methodological naturalism fails. Nor can one rely on “demarcation criteria” devised to define science normatively. These criteria, which purport to distinguish science from pseudoscience or religion, die by a thousand counterexamples. The history of science includes many theories violating one or another allegedly necessary demarcation criterion (such as observability, explanation by natural law, or falsifiability), yet such theories have figured centrally in the development of their respective sciences. Moreover, demarcation criteria cannot justify methodological naturalism itself. Naturalistic evolutionary theories and competing theories of intelligent design or creation either equivalently satisfy demarcation criteria, or fail to do so. The truth about the history of life on Earth cannot be decided by philosophical definitions. Given that no sound justification exists for holding methodological naturalism as a science-defining rule, Christians should not use it as a reason for adopting theistic evolution, or excluding other theories.

20 How to Lose a Battleship: Why Methodological Naturalism Sinks Theistic Evolution

Stephen Dilley

Theistic evolutionists should reject methodological naturalism. Among other reasons, methodological naturalism prohibits both (1) the use of theology-laden claims within scientific discourse and (2) scientific engagement with so-called “nonscientific” theories, like creationism and intelligent design. And yet, key scientific arguments for evolutionary theory—from the *Origin* to the present—either rely on theology-laden claims or engage creationist (or intelligent design) theories in a scientific manner. Under methodological naturalism, however, this dynamic is not acceptable. Accordingly, if theistic evolutionists accept methodological naturalism, they forfeit significant justification for their favored theory. Insofar as theistic evolutionists wish to retain this justification, they ought to set methodological naturalism aside.

21 How Theistic Evolution Kicks Christianity Out of the Plausibility Structure and Robs Christians of Confidence that the Bible Is a Source of Knowledge

J. P. Moreland

We can have knowledge (that is, justified true belief) of a wide range of things: logic, mathematics, the truth of Christianity, various biblical doctrines, ethical truths, and so forth. While important, science is only one of the many ways humans know things. However, given the widespread scientism—the view that the hard sciences are the only or the vastly superior way to know things, especially in comparison to theology and ethics—in our culture, theistic evolutionists reinforce this view by constantly revising biblical teachings and interpretations because science says so. Thus, by adopting this unbiblical epistemological outlook, theistic evolutionists weaken the rational authority of biblical teaching among Christians and non-Christians. As a result, the Bible is no longer regarded by many as a genuine source of knowledge, and fewer and fewer people take the Bible seriously. In this way, perhaps unintentionally, those who adopt theistic evolution marginalize Christian truth claims in the church and the public square.

22 How to Think about God's Action in the World

C. John Collins

Christians have traditionally thought of God's works of "providence" as including what we call "natural" and "supernatural," and both are equally "God's action." They have also thought that at least some of the supernatural actions are in principle discernible as special by humans. This provides a robust tool for reading the Bible, for living wisely, and for doing science. A fully evolutionary perspective that seeks to be traditionally Christian affirms that God "acts" through the "natural" events of the evolutionary process, and still allows for "miracles" outside this process, such as the death of the Egyptian firstborn. However, whatever processes of descent with modification God might have used, its "natural" functioning is not enough to account for the origin of the world, of life, and of human reason—nor does recognizing this involve us in a "God-of-the-gaps" fallacy. In fact, for good critical thinking, we should be careful *both* about appealing to miracle to cover our ignorance *and* about excluding, before we even begin our study, the possibility of extra help from outside the natural process.

23 Theistic Evolution and the Problem of Natural Evil

Garrett J. DeWeese

"Natural evil" refers to the pain and suffering caused by natural processes, in contrast to "moral evil," the wicked acts of morally responsible persons. The amount of suffering due to natural causes seems to show that the existence of an omnipotent, omniscient, omnibenevolent God is impossible, or at least highly improbable. Thus, until recently, Christian theologians, philosophers, and apologists had thought it was important to show that God was not directly responsible for the suffering and death caused by natural evil. However, conservative Christians who have embraced theistic evolution have *not* thought it necessary to "insulate" God from direct responsibility for natural evil. If natural evil is of necessity a part of evolutionary history, and if evolution is the process instituted by God, then it follows that God is the direct cause of natural evil—it is part of his plan. We will see, however, that opponents of theistic evolution have much better explanations of natural evil—explanations that do not make God the direct cause of the resultant pain and death.

24 Bringing Home the Bacon: The Interaction of Science and Scripture Today

Colin R. Reeves

Recent years have seen several examples where apparent scientific “truth” has been used to cast doubt on traditional biblical doctrines. Principally, this has concerned the reinterpretation of the early chapters of Genesis in order to question the need for a historical Adam, and for a fall that entailed physical death. This chapter addresses not so much the biblical evidence for these doctrines, which has been forcefully defended elsewhere, but the underlying methodology of those who question them. Their approach can be traced back to Francis Bacon’s works of the early seventeenth century, which argued that God has spoken in “Two Books,” where the “book of nature” (for which, today, read science) is the key to interpreting the Bible. It is commonly asserted that (contrary to writers such as Richard Dawkins) there is no conflict between science and Scripture: these two books are “complementary” and not opposed to each other. In this chapter we shall see that, like Bacon, those who promote this view most assiduously do not in fact so regard the interaction between science and the Bible. “Science” (that is, science assumed to be an *autonomous* source of truth) *in practice* always trumps Scripture. This has consequences, not only for particular doctrines such as the fall or the atonement, but for a whole way of doing theology. The Bible is no longer inerrant, authoritative, sufficient, or even perspicuous. The “scientific” approach to biblical interpretation really follows closely the lines of classical liberalism. Thus, there is indeed a conflict between “Science” and Scripture, a conflict that is dangerous not only for theology but also for true science itself.

25 The Origin of Moral Conscience: Theistic Evolution versus Intelligent Design

Tapio Puolimatka

Theistic evolutionists generally agree that Darwinian evolution is not able to establish the origin of actual moral obligations. All that the evolutionary story can possibly do is to explain how we acquired moral beliefs and emotions. The problem for theistic evolutionists is, however, that current evolutionary accounts fail even in the latter task: they fail to explain the origin of moral

conscience. The human capacity to discern moral truths cannot be reduced to a product of the kind of combinatorial processes that are available to a Darwinian account of evolution. Although theistic evolutionists assume that the idea of moral conscience as an expression of God's design for humans is fully compatible with various naturalistic explanations of the origin of moral conscience, they fail to specify a natural process that could plausibly do the job. In this respect theistic evolutionism amounts to little more than the statement that they do not see a logical problem in assuming that God could have used a natural process.

26 Darwin in the Dock: C. S. Lewis on Evolution

John G. West

Few twentieth-century writers are as beloved by modern Christians as C. S. Lewis. In recent years, there has been considerable discussion about the views of Lewis on evolution, with some claiming that he is best described as a proponent of theistic evolution. This chapter, drawing on Lewis's public and private writings, shows that Lewis in fact expressed deep and growing concerns about major aspects of modern evolutionary theory. Lewis did not object in principle to the evolutionary idea of common descent, but he sharply limited its application in a way that mainstream proponents of evolution would find unacceptable. More importantly, Lewis was a thoroughgoing skeptic of the creative power of unguided Darwinian natural selection, and he sharply criticized the application of what he called "evolutionism" to morality and society. Finally, Lewis validated raising questions about Darwinian evolution by showing how science itself depends on many nonscientific assumptions.

SECTION III: THE BIBLICAL AND THEOLOGICAL CRITIQUE OF THEISTIC EVOLUTION

27 Theistic Evolution Undermines Twelve Creation Events and Several Crucial Christian Doctrines

Wayne Grudem

This chapter provides an overview of the issues raised by theistic evolution in relationship to the truthfulness of the Bible and several historic Christian doctrines. First, it enumerates twelve

specific affirmations about the origin of human beings and other living creatures that are held by the most prominent advocates of theistic evolution today. It then seeks to show that these affirmations are in direct conflict with multiple passages of Scripture, including passages not only from the Old Testament but also from ten books in the New Testament. It concludes that belief in theistic evolution is inconsistent with belief in the truthfulness of the Bible. In addition, it shows how theistic evolution undermines eleven significant Christian doctrines. (This chapter relies heavily on the detailed exegetical work of John Currid and Guy Waters in chapters 28 and 29.)

28 Theistic Evolution Is Incompatible with the Teachings of the Old Testament

John D. Currid

This chapter explores ways in which theistic evolution is incompatible with the teachings of the Old Testament. It closely examines Genesis 1–3 and responds to the five most common alternative explanations proposed by advocates of theistic evolution: (1) the “functional model” of Genesis 1–3; (2) the view that Genesis 1–3 is “myth”; (3) the view that Genesis 1–3 should be understood as “figurative and theological literature”; (4) the “sequential scheme” interpretation, which argues that the events of Genesis 2 occurred long after Genesis 1; and (5) the “etiology as methodology” interpretation, which claims that Genesis 1–3 was written not as factual history but as an explanation for certain features that we see in the world (though the explanation need not record actual historical events). Multiple features in the text of Genesis 1–3 show these alternative explanations to be unpersuasive.

29 Theistic Evolution Is Incompatible with the Teachings of the New Testament

Guy Prentiss Waters

This chapter claims that theistic evolution is incompatible with the teachings of the New Testament. It surveys the passages in the New Testament that address Adam and Eve (as reported in Genesis 1–3) and also passages that reflect on the period of history covered in Genesis 4–11. It shows that the New Testament writers regarded the entirety of Genesis 1–11 in fully historical

terms. The chapter also gives closer attention to two of the most extended New Testament expositions of Adam: 1 Corinthians 15:20–22, 44–49; and Romans 5:12–21. Paul understands Adam to be as historical a figure as Jesus of Nazareth, and the biological parent of the entire human race. He also attributes the entrance of sin and death into the human race to the first sin of Adam, and shows that Adam’s one sin is imputed to his natural posterity. The chapter finally shows the ways in which leading proponents of theistic evolution depart from the New Testament writers’ testimony to Adam and Eve, thereby calling into question the historical underpinnings of the gospel.

30 Theistic Evolution Is Incompatible with Historical Christian Doctrine

Gregg R. Allison

Church leaders have historically been called upon to embrace and guard the orthodox position of the church on creation. This chapter develops the specific components of sound doctrine in the area of creation. It articulates the church’s historical perspective and demonstrates how theistic evolution is incompatible with the consensus viewpoint. It briefly discusses the views of several more recent evangelical writers.

31 Additional Note: B. B. Warfield Did Not Endorse Theistic Evolution as It Is Understood Today

Fred G. Zaspel

This chapter quotes extensively from published and unpublished writings of Princeton theologian B. B. Warfield on creation and evolution, demonstrating that Warfield did not endorse theistic evolution as it is understood and advocated today.

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Foreword

It is an honor and a pleasure to write the foreword to this book, which sets a new standard for Christian engagement with contemporary science. The cumulative effect of the set of papers assembled in this volume is to suggest that the “God hypothesis” (or what philosophers call “divine action”) remains very much on the table as a scientific explanation for events in the history of life. Christians who fail to deal seriously with that point—perhaps out of deference to secular scientific authority—end up selling short both science and their faith. I take this to be the most important challenge that the scientists and scholars in these pages are offering to theistic evolutionists.

By conventional Christian standards, I do not think that I would count as a person of faith—though I may count as one by conventional secular standards. In any case, I write as someone who was confirmed in the Roman Catholic Church and studied on scholarship with the Jesuits before attending university. The Jesuits are notoriously rationalistic in their approach to matters of faith, which has always appealed to me. I was never compelled to declare belief in God but was strongly encouraged to question default secular solutions to problems of knowledge and action. As a result, I have been a “seeker,” a term originally used to characterize Christian dissenters from the Church of England in the seventeenth century, which Thomas Henry Huxley appropriated two centuries later, when he described himself as an “agnostic” on matters of faith.

The real question for me has been not whether God exists but how the deity operates in the world—including all the issues that raises for what we should believe and how we should act. In this respect, I have always regarded “atheism” in the true sense (that is, anti-theism, not simply anti-clericalism) as a moral and/or epistemic failure—perhaps a prudishness if not absence of the imagination, which when threatened can morph into bigotry toward that which one simply fails to

understand. The neologism “theophobia” would not be out of place. My Jesuit teachers would go one step further and ask atheists the following question: What advantage would your understanding of reality gain by dismissing out of hand the existence of a divine intelligence, such that it would be worth the loss of meaning to your life and reality more generally?

But this is a book about theists who contest the place of modern science in Christianity. The charge laid at the doorstep of theistic evolutionists is that the doorstep is exactly where they leave their religious commitments when they enter the house of science. They do this, even though the weight of the evidence from across the natural sciences does not oblige such a conclusion. On the contrary, from cosmology to biology, it is becoming increasingly clear that science’s failure to explain matters at the most fundamental level is at least in part due to an institutional prohibition on intelligent design as one of the explanatory options. In these pages, “methodological naturalism” is the name by which this prohibition goes, but it could be equally called “methodological atheism.”

Like some leaders of the intelligent design movement, I was formally trained in a field called “history and philosophy of science.” As the name indicates, the field combines history, philosophy, and science in search of a lost sense of purpose in organized inquiry that began with the proliferation of academic disciplines in the nineteenth century. The field’s guiding idea is that if we understand how something as distinctive as science came about and was sustained over the centuries, we might have a better sense of what it says about us and hence where it and we should be going. The field’s founder was William Whewell, an Anglican theologian who introduced the natural sciences into the Cambridge University curriculum in the mid-nineteenth century. He also coined the word “scientist” in its modern sense.

History and philosophy of science truly came of age in the 1960s, a period of widespread disaffection with science’s complicity in what was then called the “military-industrial complex.” This disaffection was expressed in light of a general understanding that the West had experienced a “Scientific Revolution” in the seventeenth century, which radically transformed how people thought about themselves and their

relationship to the cosmos. What most struck the historians and philosophers of science who investigated this “take off” point for the human condition was that it was part of a more general spiritual awakening of Christian Europe, what is normally called the Protestant Reformation. And precisely because the original turn to science involved a break from the established authority of the Roman Catholic Church, science’s submission to established secular authority during the Cold War appeared to betray that founding spirit. Readers of this volume should consider the challenge to theistic evolution found in this volume in a similar light.

While it is generally accepted that the Protestant Reformation overlapped with the Scientific Revolution, this is often treated as a mere historical accident, when in fact something closer to a causal connection obtains between the two events. The first movement in human history to trust the ordinary person’s ability to judge the weight of evidence for themselves was the drive to get people to read the Bible for themselves. Until the sixteenth century, Christianity found itself in the peculiar position of being a faith founded on a sacred book through which God communicated with humans, yet relatively few of the faithful could read, let alone affirm its contents. The Protestant Reformation reversed that. The Scientific Revolution then extended that “judge for yourself” attitude to all of physical reality by explicitly treating nature as a second sacred book. Thus, it is not surprising that Francis Bacon, with whom the “scientific method” is normally associated, was also instrumental in the production of the King James Version of the Bible.

Today science enjoys an unprecedented authority because of both the number of people who believe in it and the number of subjects to which their belief applies. In this respect, our world resembles the one faced by the Protestant Reformers in that people today are often discouraged, because of the authority of science, from testing their faith in its claims by considering the evidence for themselves. Instead they are meant to defer to the authority of academic experts, who function as a secular clergy. But unlike the sixteenth century, when the Protestant Reformers themselves drove the mass literacy campaigns to get people to read the Bible, we live in a time of unprecedented access to knowledge about science, both formally and informally—from the classroom to

the Internet. Moreover, public opinion surveys consistently show that people are pro-science as a mode of inquiry but anti-science as a mode of authority. And so, while it has become part of secular folklore to say that the Catholic Church “repressed” the advancement of science, if “repression” implies the thwarting of an already evident desire and capacity to seek knowledge, then today’s scientific establishment seriously outperforms the early modern Church—and perhaps with the consent of theistic evolutionists.

I commend this book as providing an unprecedented opportunity for educated nonscientists to revisit the spirit of the Reformation by judging for themselves what they make of the evidence that seems to have led theistic evolutionists to privilege contemporary scientific authority above their own avowed faith. John Calvin famously likened the reading of the Bible to the wearing of spectacles to correct defective eyesight. Historically speaking, the original Scientific Revolution was largely the result of those who took his advice. But what was it about the Bible that led such a wide variety of inquirers, all wrestling with their Christian faith, to come up with the form of science that we continue to practice today? This is an important question to ask because there is no good historical reason to think that science as we know it would have arisen in any other culture—including China, generally acknowledged to have been the world’s main economic power prior to the nineteenth century—had it not arisen in Christian Europe.

A distillation of research in the history and philosophy of science suggests two biblical ideas as having been crucial to the rise of science, both of which can be attributed to the reading of *Genesis* provided by Augustine, an early church father, whose work became increasingly studied in the late Middle Ages and especially the Reformation. Augustine captured the two ideas in two Latin coinages, which *prima facie* cut against each other: *imago dei* and *peccatum originis*. The former says that humans are unique as a species in our having been created in the image and likeness of God, while the latter says that all humans are born having inherited the legacy of Adam’s error, “original sin.” Once Christians began to read the Bible for themselves, they too picked out those ideas as salient in how they defined their relationship to God, which extended to how they did science.

And this sensibility carried into the modern secular age, as perhaps best illustrated in our own day by Karl Popper's slogan for the scientific attitude as the method of "conjectures and refutations," the stronger the better in both cases. We should aspire to understand all of nature by proposing bold hypotheses (something of which we are capable because of the *imago dei*) but to expect and admit error (something to which we are inclined because of the *peccatum originis*) whenever we fall short in light of the evidence. The experimental method developed by Francis Bacon was designed to encourage just that frame of mind. And William Whewell was only one of numerous theologians and philosophers who have suggested ways of testing and interpreting the findings of science to reflect that orientation. Unfortunately we live in a time in which only those who have themselves conducted science in some authorized manner are allowed to say anything about what science is and where it should go.

Theistic evolution should be understood as a deformation that results under these conditions. Its advice to the faithful is to keep calm, trust the scientific establishment, and adapt accordingly, even if it means ceding the Bible's cognitive ground. Yet, insofar as science has succeeded as it has because of the revival of the *imago dei* and *peccatum originis* account of humanity, one might reasonably ask whether theistic evolution amounts to an outright betrayal of both the scientific and the Christian message. Christianity's direction of travel since the Reformation has been that each person is entitled and maybe even obliged to decide on matters that impinge on the nature of their own being—and to register that publicly. This volume provides an incredibly rich resource for Christians to do exactly that with regard scientific matters. I hope it will empower them to question and propose constructive alternatives to the blanket endorsement of "evolution" by theistic evolutionists.

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Scientific and Philosophical Introduction

Defining Theistic Evolution

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In this book we will provide a comprehensive scientific, philosophical, and theological critique of the idea known as theistic evolution. But before we can do that, we will need to define what the proponents of this perspective mean by “theistic evolution”—or “evolutionary creationism,” as it is sometimes now called. Indeed, before we can critique this perspective we will need to know what exactly it asserts. Is it a logically coherent position? Is it a theologically orthodox position? Is it supported by, or consistent with, the relevant scientific evidence? The answer to each of these questions depends crucially on the definition or sense of “evolution” in play. “Theistic evolution” can mean different things to different people largely because the term “evolution” itself has several distinct meanings.

This introductory essay will describe different concepts of theistic evolution, each of which corresponds to a different definition of the term *evolution*. It will also provide an initial critical evaluation of (and conceptual framework for understanding) those conceptions of theistic evolution that the authors of this volume find objectionable. The framework in this essay will help readers understand the more detailed critiques of specific versions of theistic evolution that will follow in subsequent essays, and it will help readers to understand how the different critical essays to follow mutually reinforce and complement

each other. Both here and in the essays that follow, we will focus most (but not all) of our critical concern on one particular formulation of the concept of theistic evolution—in particular, the one that affirms the most scientifically controversial, and also most religiously charged, meaning of *evolution*.

Since the term evolution has several distinct meanings, it will first be necessary to describe the meanings that are commonly associated with the term in order to evaluate the different possible concepts of theistic evolution that proponents of the idea may have in mind. It will be shown that three distinct meanings of the term evolution are especially relevant for understanding three different possible concepts of *theistic* evolution. Yale biologist Keith Stewart Thomson, for example, has noted that in contemporary biology the term evolution can refer to: (1) change over time, (2) universal common ancestry, and (3) the natural mechanisms that produce change in organisms.¹ Following Thomson, this introduction will describe and distinguish these three distinct meanings of “evolution” in order to foster clarity in the analysis and assessment of three distinct concepts of “theistic evolution.”

Evolution #1: “Change over Time”

Evolution in its most rudimentary sense simply affirms the idea of “change over time.” Many natural scientists use “evolution” in this first sense as they seek to reconstruct a series of past events to tell the story of nature’s history.² Astronomers study the life cycles of stars and the “evolution” (change over time) of the universe or specific galaxies; geologists describe changes (“evolution”) in the earth’s surface; biologists note ecological changes within recorded human history, which, for example, may have transformed a barren island into a mature forested island community. These examples, however, have little or nothing to do with the modern “neo-Darwinian” theory of evolution.

In evolutionary biology, evolution defined as change over time can also refer specifically to the idea that the life forms we see today are

1. Keith S. Thomson, “The Meanings of Evolution,” *American Scientist* 70 (1982): 521–539.

2. Peter J. Bowler, “The Changing Meaning of ‘Evolution,’” *Journal of the History of Ideas* 36 (1975): 99.

different from the life forms that existed in the distant past. The fossil record provides strong support for this idea. Paleontologists observe changes in the types of life that have existed over time as represented by different fossilized forms in the sedimentary rock record (a phenomenon known as “fossil succession”). Many of the plants and animals that are fossilized in recent rock layers are different from the plants and animals fossilized in older rocks. The composition of flora and fauna on the surface of the earth today is likewise different from the forms of life that lived long ago, as attested by the fossil record.

Evolution defined as “change over time” can also refer to observed minor changes in features of individual species—small-scale changes that take place over a relatively short period of time. Most biologists think this kind of evolution (sometimes called “microevolution”) results from a change in the proportion of different variants of a gene (called alleles) within a population over time. Thus, population geneticists will study changes in the frequencies of alleles in gene pools. A large number of precise observations have established the occurrence of this type of evolution. Studies of melanism in peppered moths, though currently contested,³ are among the most celebrated examples of *microevolution*. The observed changes in the size and shape of Galápagos finch beaks in response to changing climate patterns provide another good example of small-scale change over time within a species.

Evolution #2: “Common Descent” or “Universal Common Descent”

Many biologists today also commonly use the term *evolution* to refer to the idea that all organisms are related by common ancestry. This idea is also known as the theory of universal common descent. This theory affirms that all known living organisms are descended from a single common ancestor somewhere in the distant past. In *On the Origin of Species*, Charles Darwin made a case for the truth of evolution in this second sense. In a famous passage at the end of the *Origin*, he

3. Jerry Coyne, “Not Black and White,” review of Michael Majerus’s 1998 book, *Melanism: Evolution in Action*, *Nature* 396 (1998): 35–36; Jonathan Wells, “Second Thoughts about Peppered Moths,” *The Scientist* 13 (1999), 13.

argued that “probably all the organic beings which have ever lived on this earth have descended from some one primordial form.”⁴ Darwin thought that this primordial form gradually developed into new forms of life, which in turn gradually developed into other forms of life, eventually producing, after many millions of generations, all the complex life we see in the present.

Biology textbooks today often depict this idea just as Darwin did, with a great branching tree. The bottom of the trunk of Darwin’s tree of life represents the first primordial organism. The limbs and branches of the tree represent the many new forms of life that developed from it. The vertical axis on which the tree is plotted represents the arrow of time. The horizontal axis represents changes in biological form, or what biologists call “morphological distance.”

Darwin’s theory of biological history is often referred to as a “monophyletic” view of the history of life because it portrays all organisms as ultimately related as a single connected family. Darwin argued that this idea best explained a variety of lines of biological evidence: the succession of fossil forms, the geographical distribution of various species (such as the plants and animals of the Galápagos Islands), and the anatomical and embryological similarities among otherwise different types of organisms.

Evolution in this second sense not only specifies that all life shares a common ancestry; it also implies that virtually no limits exist to the amount of morphological change that can occur in organisms. It assumes that relatively simple organisms can, given adequate time, change into much more complex organisms. Thus, evolution in this second sense entails not only change but also gradual, continuous—and even unbounded—biological change.

Evolution #3: “The Creative Power of the Natural Selection/Random Variation (or Mutation) Mechanism”

The term *evolution* is also commonly used to refer to the cause, or mechanism, that produces the biological change depicted by Darwin’s

4. Charles Darwin, *On the Origin of Species by Means of Natural Selection*, facsimile of the first ed. (London: John Murray, 1859; repr., Cambridge, MA: Harvard University Press, 1964), 484.

tree of life. When evolution is used in this way, it usually refers to the mechanism of natural selection acting on random variations or mutations. (Modern “neo-Darwinists” propose that natural selection acts on a special kind of variation called genetic mutations. Mutations are random changes in the chemical subunits that convey information in DNA. Modern neo-Darwinists would also affirm the role of other apparently undirected evolutionary mechanisms such as genetic drift, although such mechanisms are typically thought to be of minor importance in comparison with mutation/selection in generating the adaptive complexity of life.)

This third use of *evolution* entails the idea that the natural selection/mutation mechanism has the *creative power* to produce fundamental innovations in the history of life. Whereas the theory of universal common descent postulated a *pattern* (the branching tree) to represent the history of life, the mechanism of natural selection and random variation/mutation represents a causal *process* that can allegedly generate the large-scale macroevolutionary change implied by the second meaning of evolution (see above). Since proponents of the creative power of the mutation/natural selection mechanism see it (and other similarly materialistic evolutionary mechanisms) as explaining the origin of all the forms and features of life, this definition of evolution is closely associated with, or encompasses, another definition of evolution.

Evolution #3a: The Natural Selection/Random Variation (or Mutation) Mechanism Can Explain the Appearance of Design in Living Systems apart from the Activity of an Actual Designing Intelligence.

Evolutionary biologists since Darwin have affirmed that the natural selection/random variation mechanism not only explains the origin of all new biological forms and features; they have also affirmed a closely related idea, namely, that this mechanism can explain one particularly striking feature of biological systems: the *appearance of design*. Biologists have long recognized that many organized structures in living organisms—the elegant form and protective covering of the coiled nautilus; the interdependent parts of the vertebrate eye; the interlocking bones, muscles, and feathers of a bird wing—“give the appearance of

having been designed for a purpose.”⁵ During the nineteenth century, before Darwin, biologists were particularly struck by the way in which living organisms seemed well adapted to their environments. They attributed this adaptation of organisms to their environments to the planning and ingenuity of a powerful designing intelligence.

Yet Darwin (and modern neo-Darwinists) have argued that the appearance of design in living organisms could be more simply explained as the product of a purely undirected mechanism, in particular the variation/natural selection mechanism. Darwin attempted to show that the natural selection mechanism could account for the appearance of design by drawing an analogy to the well-known process of “artificial selection” or “selective breeding.” Anyone in the nineteenth century familiar with the breeding of domestic animals—dogs, horses, sheep, or pigeons, for example—knew that human breeders could alter the features of domestic stock by allowing only animals with certain traits to breed. A Scottish shepherd might breed for a woollier sheep to enhance its chances of survival in a cold northern climate (or to harvest more wool). To do so, he would choose only the woolliest males and woolliest ewes to breed. If, generation after generation, he continued to select and breed only the woolliest sheep among the resulting offspring, he would eventually produce a woollier breed of sheep—a breed *better adapted* to its environment. In such cases, “the key is man’s power of accumulative selection,” wrote Darwin. “Nature gives successive variations; man adds them up in certain directions useful to him.”⁶

But, as Darwin pointed out, nature also has a means of sifting: defective creatures are less likely to survive and reproduce, while those offspring with beneficial variations are more likely to survive, reproduce, and pass on their advantages to future generations. In the *Origin*, Darwin argued that this process—natural selection acting on random variations—could alter the features of organisms just as intelligent selection by human breeders can. Nature itself could play the role of the breeder and, thus, eliminate the need for an actual designing intelligence to produce the complex adaptations that living organisms manifest.

5. Richard Dawkins, *The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe without Design* (New York: Norton, 1986), 1.

6. Darwin, *On the Origin of Species*, 30.

Consider once more our flock of sheep. Imagine that instead of a human selecting the woolliest males and ewes to breed, a series of very cold winters ensures that all but the woolliest sheep in a population die off. Now, again, only very woolly sheep will remain to breed. If the cold winters continue over several generations, will the result not be the same as before? Won't the population of sheep eventually become discernibly woollier?

This was Darwin's great insight. Nature—in the form of environmental changes or other factors—could have the same effect on a population of organisms as the intentional decisions of an intelligent agent. Nature would favor the preservation of certain features over others—those that conferred a functional or survival advantage upon the organisms possessing them—causing the features of the population to change. The resulting change or increase in fitness (adaptation) will have been produced not by an intelligent breeder choosing a desirable trait or variation—not by “artificial selection”—but by a wholly natural process. As Darwin himself insisted, “There seems to be no more design in the variability of organic beings and in the action of natural selection, than in the course in which the wind blows.”⁷

Or as the eminent evolutionary biologist Francisco Ayala has argued, Darwin accounted for “design without a designer,” since “It was Darwin's greatest accomplishment to show that the directive organization of living beings can be explained as the result of a natural process, natural selection, without any need to resort to a Creator or other external agent.”⁸

Indeed, since 1859 most evolutionary biologists have understood the appearance of design in living things as an illusion—a powerfully suggestive one, but an illusion nonetheless. For this reason, as briefly noted above, Richard Dawkins insists in *The Blind Watchmaker* that “biology is the study of complicated things that give the appearance of having been designed for a purpose.”⁹ Or as Ernst Mayr explained, “The real core of Darwinism . . . is the theory of natural selection.

7. Charles Darwin, *The Life and Letters of Charles Darwin*, ed. Francis Darwin, vol. 1 (London: John Murray, 1887), 278–279.

8. Francisco J. Ayala, “Darwin's Greatest Discovery: Design without Designer,” *Proceedings of the National Academy of Sciences USA* 104 (May 15, 2007): 8567–8573.

9. Dawkins, *Blind Watchmaker*, 1.

This theory is so important for the Darwinian because it permits the explanation of adaptation, the ‘design’ of the natural theologian, by natural means, instead of by divine intervention.”¹⁰ Or as Francis Crick mused, biologists must “constantly keep in mind that what they see was not designed, but rather evolved.”¹¹ Likewise George Gaylord Simpson, one of the architects of neo-Darwinism, in *The Meaning of Evolution*, wrote that neo-Darwinism implies that “man is the result of a purposeless and natural process that did not have him in mind.”¹²

But if apparent design is an illusion—if it is *just* an appearance—as both Darwinists and modern neo-Darwinists have argued, then it follows that whatever mechanism produced that appearance must be wholly unguided and undirected. For this reason, the third meaning of *evolution*—the definition that affirms the creative power of the natural selection/random mutation mechanism and denies evidence of actual design in living systems—raises a significant issue for any proponent of *theistic* evolution who affirms this meaning of evolution.

Assessing Different Concepts of Theistic Evolution (or Evolutionary Creation)

The three different meanings of evolution discussed above correspond to three possible and distinct concepts of theistic evolution, one of which is trivial, one of which is contestable but not incoherent, and one of which appears deeply problematic. In the last case, special attention is due to the important issue of whether theistic evolutionists regard the evolutionary process as guided or unguided.

If by “evolution” the theistic evolutionist means to affirm evolution in the first sense—change over time—and if, further, the theistic evolutionist affirms that God has caused that “change over time,” then certainly no theist would contest the theological orthodoxy or logical coherence of such a statement. If a personal God of the kind affirmed by biblical Judaism or Christianity exists, then there is nothing logically

10. Ernst Mayr, Foreword in Michael Ruse, *Darwinism Defended: A Guide to the Evolution Controversies* (Reading, MA: Addison-Wesley, 1982), xi–xii.

11. Francis Crick, *What Mad Pursuit: A Personal View of Scientific Discovery* (New York: Basic Books, 1988), 138.

12. George Gaylord Simpson, *The Meaning of Evolution*, rev. ed. (New Haven, CT: Yale University Press, 1967), 345.

contradictory in such a statement, nor does it contradict any specific theological tenets. The Jewish and Christian scriptures clearly affirm that God has caused change over time, not only in human history but also in the process of creating the world and different forms of life.

Given the extensive scientific evidence showing that the representation of life forms on Earth has changed over time, there does not seem to be any significant theological or scientific basis for questioning evolution, or theistic evolution, where evolution is defined in this minimal sense. Similarly, since God could create different organisms with a built-in capacity to change or “evolve” *within limits* without denying his design of different living systems as distinct forms of life, and since there is extensive scientific evidence for change of this kind occurring, there does not seem to be any significant scientific or theological basis for questioning evolution in this sense either. Understanding theistic evolution this way seems unobjectionable, perhaps even trivial.

Another conception of theistic evolution affirms the second meaning of evolution. It affirms the view that God has caused *continuous* and *gradual* biological change such that the history of life is best represented by a great branching tree pattern as Darwin argued. Theistic evolution thus conceived is, again, not obviously logically incoherent since God as conceived by theists, including biblical theists, is certainly capable of producing continuous and gradual change.

Nevertheless, some biblical theists question universal common descent based on their interpretation of the biblical teaching in Genesis about God creating distinct “kinds” of plants and animals, all of which “reproduce after their own kind.” Those who think a natural reading of the Genesis account suggests that different kinds of plants and animals reproduce only after their own kind and do not vary beyond some fixed limit in their morphology, question the theory of universal common descent on biblical grounds. Some biblical theists likewise question that humans and lower animals share a common ancestry, believing instead that the biblical account affirms that humans arose from a special creative act, thus excluding the idea that humans originated from nonhuman ancestors.

In addition to these theological objections, there is a growing body of *scientific* evidence and peer-reviewed literature challenging such a

“monophyletic” picture of the history of life.¹³ These scientific challenges to the theory of universal common descent are reviewed in chapters 10–12 of this volume. Chapters 13–16 of this volume also discuss scientific evidence that challenges the idea that humans and chimps in particular share a common ancestor.¹⁴

An even more foundational issue arises when considering the *cause* of biological change and the question of whether theistic evolutionists conceive of evolutionary mechanisms as directed or undirected processes.

Some proponents of theistic evolution openly affirm that the evolutionary process is an unguided, undirected process. Kenneth Miller, a leading theistic evolutionist and author of *Finding Darwin's God* has repeatedly stated in editions of his popular textbook that “evolution works without either plan or purpose. . . . Evolution is random and undirected.”¹⁵

Nevertheless, most theistic evolutionists, including geneticist Francis Collins, perhaps the world's best-known proponent of the position, have been reluctant to clarify what they think about this important issue. In his book *The Language of God*, Collins makes clear his support for universal common descent. He also seems to assume the adequacy of standard evolutionary mechanisms but does not clearly say whether he thinks those mechanisms are directed or undirected—only that they “could be” directed.

In any case, where theistic evolution is understood to affirm the creative power of the neo-Darwinian and/or other evolutionary mecha-

13. See, e.g., Michael Syvanen, “Evolutionary Implications of Horizontal Gene Transfer,” *Annual Review of Genetics* 46 (2012): 339–356; W. Ford Doolittle, “The Practice of Classification and the Theory of Evolution, and What the Demise of Charles Darwin's Tree of Life Hypothesis Means for Both of Them,” *Philosophical Transactions of the Royal Society B* 364 (2009): 2221–2228; Malcolm S. Gordon, “The Concept of Monophyly: A Speculative Essay,” *Biology and Philosophy* 14 (1999): 331–348; Eugene V. Koonin, “The Biological Big Bang Model for the Major Transitions in Evolution,” *Biology Direct* 2 (2007): 21; Vicky Merhej and Didier Raoult, “Rhizome of Life, Catastrophes, Sequence Exchanges, Gene Creations, and Giant Viruses: How Microbial Genomics Challenges Darwin,” *Frontiers in Cellular and Infection Microbiology* 2 (August 28, 2012): 113; Didier Raoult, “The Post-Darwinist Rhizome of Life,” *The Lancet* 375 (January 9, 2010): 104–105; Carl R. Woese, “On the Evolution of Cells,” *Proceedings of the U.S. National Academy of Sciences* 99 (June 25, 2002): 8742–8747; Graham Lawton, “Why Darwin Was Wrong about the Tree of Life,” *New Scientist* (January 21, 2009): 34–39; Stephen C. Meyer, Paul A. Nelson, Jonathan Moneymaker, Ralph Seelke, and Scott Minnich, *Explore Evolution: The Arguments for and against Neo-Darwinism* (London: Hill House, 2007).

14. See also: Ann Gauger, Douglas Axe, and Casey Luskin, *Science and Human Origins* (Seattle: Discovery Institute Press, 2012).

15. Kenneth R. Miller and Joseph S. Levine, *Biology* (Upper Saddle River, NJ: Prentice Hall: 1998), 658.

nisms and to deny actual, as opposed to apparent, design in living organisms—i.e., the third meaning of evolution discussed above—the concept becomes deeply problematic. Indeed, depending on how this particular understanding of theistic evolution is articulated, it generates either (1) logical contradictions, (2) a theologically heterodox view of divine action, or (3) a convoluted and scientifically vacuous explanation. In addition to this dilemma (or rather “*tri*-lemma”), a huge body of scientific evidence now challenges the creative power of the mutation/selection mechanism, especially with respect to some of the most striking appearances of design in biological systems. Let’s examine each of these difficulties in more detail.

A Logically Contradictory View

In the first place, some formulations of theistic evolution that affirm the third meaning of evolution result in logical contradictions. For example, if the theistic evolutionist means to affirm the standard neo-Darwinian view of the natural selection/mutation mechanism as an *undirected* process while simultaneously affirming that God is still *causally responsible* for the origin of new forms of life, then the theistic evolutionist implies that God somehow guided or directed an unguided and undirected process. Logically, no intelligent being—not even God—can direct an undirected process. As soon as he directs it, the “undirected” process would no longer be undirected.

On the other hand, a proponent of theistic evolution may conceive of the natural selection/mutation mechanism as a *directed* process (with God perhaps directing specific mutations). This view represents a decidedly non-Darwinian conception of the evolutionary mechanism. It also constitutes a version of the theory of intelligent design—one that affirms that God intelligently designed organisms by actively directing mutations (or other processes) toward functional endpoints during the history of life. Yet, if living organisms are the result of a directed process, then it follows that the appearance of design in living organisms is real, not merely apparent or illusory. Nevertheless, chief proponents of theistic evolution reject the theory of intelligent design with its claim that the appearance of design in living organisms *is* real. Thus, any proponent of theistic evolution who affirms that God is

directing the evolutionary mechanism, and who also rejects intelligent design, implicitly contradicts himself. (Of course, there is no contradiction in affirming both a God-guided mechanism of evolution and intelligent design, though few theistic evolutionists have publicly taken this view—see Ratzsch, *Nature, Design, and Science* for a notable exception.¹⁶)

Theologically Problematic Views

Other formulations of theistic evolution explicitly *deny* that God is directing or guiding the mutation/selection mechanism, and instead see a much more limited divine role in the process of life's creation. One formulation affirms that God designed the laws of nature at the beginning of the universe to make the origin and development of life possible (or inevitable). This view is scientifically problematic, however, since it can be demonstrated (see chapter 6) that the information necessary to build even a single functional gene (or section of DNA) cannot have been contained in the elementary particles and energy present at the beginning of the universe.¹⁷ Another formulation holds that God created the laws of nature at the beginning of the universe and also affirms that he constantly upholds those laws on a moment-by-moment basis. Nevertheless, both of these understandings of theistic evolution deny that God in any way actively directed the mutation/selection (or other evolutionary) mechanisms. Both formulations conceive of God's role in the *creation* of life (as opposed to the maintenance of physical law) as mainly passive rather than active or directive. In both views, the mechanisms of natural selection and random mutation (and/or other similarly undirected evolutionary mechanisms) are seen as the main causal actor(s) in producing new forms of life. Thus, God does not act directly or "intervene" within the orderly concourse of nature.

Yet, this view is arguably theologically problematic, at least for orthodox Jews and Christians who derive their understanding of divine action from the biblical text. This is easy to see in the first of

16. Del Ratzsch, *Nature, Design, and Science* (Albany, NY: SUNY Press, 2001)

17. Stephen C. Meyer, "The Difference It Doesn't Make," in *God and Evolution: Protestants, Catholics, and Jews Explore Darwin's Challenge to Faith*, ed. Jay Wesley Richards (Seattle: Discovery Institute Press, 2010), 147–164.

these two formulations, where God's activity is confined to an act of creation or design at the very beginning of the universe. Such a front-end loaded view of design is, of course, a logically possible view, but it is indistinguishable from deism. It, therefore, contradicts the plainly *theistic* view of divine action articulated in the Bible, where God acts in his creation after the beginning of the universe. Indeed, the Bible describes God as not only acting to create the universe in the beginning; it also describes him as presently upholding the universe in its orderly concourse *and* also describes him *as acting discretely as an agent within the natural order*. (See, for example, Gen. 1:27, "God created [*bara*] man"; Ex. 10:13 [NLT], "and the Lord *caused* an east wind to blow.")

The version of theistic evolution that affirms that God created *and* upholds the laws of nature, but does not actively direct the creation of life, is also theologically problematic—at least for those who profess a biblical understanding of God's nature and powers. If God is not at least directing the evolutionary process, then the origin of biological systems must be attributed, in some part, to nature acting independently of God's direction. This entails a diminished view of God's involvement in creation and divine sovereignty at odds with most traditional readings of the Bible (whether Jewish or Christian).¹⁸ Indeed, if God did not at least direct the process of mutation and selection (and/or other relevant evolutionary mechanisms), but instead merely sustained the laws of nature that made them possible, then it follows that he could not know, and does not know, what those mechanisms would (or will) produce, including whether they would have produced human beings. Accordingly, many theistic evolutionists who embrace this view have insisted that the evolutionary process might just as well have produced "a big-brained dinosaur" as opposed to a big-brained bipedal hominid—i.e., human beings.¹⁹ Since, in this view, nature has

18. Traditionally, theologians have understood the Bible to affirm the sovereignty of God and the absolute dependence of his creation upon him, not only for its ongoing existence (as in, "in him all things hold together"; see Col. 1:17) but also for its origin in the first place (as in, "Through him all things were made; without him nothing was made that has been made"; John 1:3 [NIV]).

19. Kenneth Miller, *Finding Darwin's God: A Scientist's Search for Common Ground between God and Evolution* (New York: HarperCollins, 1999); Miller, comments during "Evolution and Intelligent Design: An Exchange," at "Shifting Ground: Religion and Civic Life in America" conference, Bedford, New Hampshire, sponsored by the New Hampshire Humanities Council, March 24,

significant autonomy from God, and since God does not direct or control the evolutionary process, he cannot know what it will produce—a conclusion at odds with God’s omniscience and providence. Similarly, since God does not direct the evolutionary process, what it produces cannot be said to express his specific intentions in creation—a conclusion that also stands at odds with the biblical claim that God made man expressly in his own image and “foreknew” him.

A Convoluted (and Scientifically Vacuous) Explanation

Perhaps because evangelical Christian advocates of theistic evolution have not wanted to embrace either the logical or the theological problems associated with affirming the third meaning of evolution, they have typically declined to specify whether they think the natural selection/random mutation mechanism is a directed or an undirected process. Instead, many affirm a scientifically convoluted and vacuous formulation of theistic evolution—at least insofar as it stands as an explanation for the appearance of design in living organisms.

Recall that from Darwin to the present, leading evolutionary biologists have acknowledged the appearance of design in living organisms and have sought to explain its origin. Darwinists and neo-Darwinists have sought to explain this appearance of design as the result of an undirected and unguided mechanism (natural selection acting on random variations or mutations) that can mimic the powers of a designing intelligence. Theistic evolutionists who affirm the creative power of this (and, perhaps, other related) evolutionary mechanism(s) have been loath to argue that God actively directed the evolutionary process in any discernible way. That, of course, would constitute a form of intelligent design, and most theistic evolutionists reject this idea outright.

Francis Collins, for example, has explicitly rejected the theory of intelligent design. Yet, the theory of intelligent design does not necessarily reject evolution in either of the first two senses above, but instead argues that key appearances of design in living organisms are real, not illusory. In rejecting the theory of intelligent design, Collins would,

2007; see also John G. West, “Nothing New under the Sun,” in *God and Evolution: Protestants, Catholics, and Jews Explore Darwin’s Challenge to Faith*, 40–45.

therefore, seem to be affirming the contrary, namely, that the appearance of design is not real but just an appearance.

He thus seems to commit himself to the position that the process that produced the appearance of design in living organisms is undirected. That would follow because, again, if it were otherwise—if the process were directed or guided—then the appearance of design in living organisms would be real and not *just* apparent.

Yet, in *The Language of God*, Collins does not specify whether the evolutionary process is directed or not, only that it “could be” directed. As he explains, “evolution could appear to us to be driven by chance, but from God’s perspective the outcome would be entirely specified. Thus, God *could be* completely and intimately involved in the creation of all species, while from our perspective . . . this would appear a random and undirected process” (emphasis added).²⁰

That God could have acted in such a concealed way is, of course, a logical possibility, but positing such a view, nevertheless, entails difficulties that proponents of theistic evolution rarely address.

First, this version of theistic evolution suggests a logically convoluted explanation for the appearance of design in living systems. Like classical Darwinism and neo-Darwinism, this version of theistic evolution denies that anything about living systems indicates that an actual designing intelligence played a role in their origin. Why? Theistic evolutionists, like mainstream neo-Darwinists, affirm the third meaning of evolution—i.e., the sufficiency of the natural selection/mutation mechanism (possibly in conjunction with other similarly naturalistic evolutionary mechanisms) as an explanation for the origin of new forms and features of life. Since natural selection and random mutations can account for the origin of biological systems (and their appearances of design), theistic evolutionists steadfastly deny the need to propose an actual designing intelligence.

Yet, having affirmed what classical Darwinists and neo-Darwinists affirm—namely, the sufficiency of standard evolutionary mechanisms—they then suggest that such mechanisms may only *appear* undirected and unguided. Francis Collins suggests that “from our perspective” mutation and selection “would appear a random and undirected pro-

20. Francis Collins, *The Language of God: A Scientist Presents Evidence for Belief* (New York: Free Press, 2006), 205.

cess.” Thus, his formulation implies that the *appearance or illusion of design* in living systems results from the activity of an *apparently undirected* material process (i.e., classical and neo-Darwinism) except that this apparently undirected process is itself being used by a designing intelligence—or at least it *could* be, though no one can tell for sure. Or, to put it another way, we have moved from Richard Dawkins’s famous statement that “biology is the study of complicated things that give the appearance of having been designed for a purpose”²¹ to the proposition that “biology is the study of complicated things that give the appearance of having been designed for a purpose, though that appearance of design is an illusion (classical Darwinism), even though there may be an intelligent designer behind it all—in which case that appearance wouldn’t be an illusion after all.”

This tangled—indeed, convoluted—view of the origin of living systems adds nothing to our scientific understanding of what caused living organisms to arise. As such, it also represents an entirely vacuous explanation. Indeed, it has no empirical or scientific content beyond that offered by strictly materialistic evolutionary theories. It tells us nothing about God’s role in the evolutionary process or even whether or not he had a role at all. It, thus, renders the modifier “theistic” in the term “theistic evolution” superfluous. It does not represent an alternative theory of biological origins, but a reaffirmation of some materialistic version of evolutionary theory restated using theological terminology.

Of course, theistic evolutionists who hold this view do not typically spell out its implications so as to reveal the convoluted nature of the explanation for the appearance of design that their view entails. Instead, they typically avoid discussing, or offering explanations for, the appearance of design in living systems altogether—though this appearance is so striking that even secular evolutionary biologists have long and consistently acknowledged it.²²

Theistic evolutionists such as Collins also deny what advocates of intelligent design affirm, namely, that the past activity of a designing intelligence, including God’s intelligence, is *detectable* or discernible in living systems. Yet, denying the detectability of design in nature gen-

21. Dawkins, *Blind Watchmaker*, 1.

22. Ibid.; Crick, *What Mad Pursuit*, 138.

erates another theological difficulty. In particular, this view seems to contradict what the biblical record affirms about the natural world (or “the things that are made”) revealing the reality of God and his “invisible qualities” such as his power, glory, divine nature and wisdom. As John West has explained,

[Francis Collins’ version of theistic evolution] still seriously conflicts with the Biblical understanding of God and His general revelation. Both the Old and New Testaments clearly teach that human beings can recognize God’s handiwork in nature through their own observations rather than [through] special divine revelation. From the psalmist who proclaimed that the “heavens declare the glory of God” (Psalm 19) to the Apostle Paul who argued in Rom. 1:20 that “since the creation of the world His invisible attributes are clearly seen, being understood by the things that are made,” the idea that we can see design in nature was clearly taught. Jesus himself pointed to the feeding of birds, the rain and the sun, and the exquisite design of the lilies of the field as observable evidence of God’s active care towards the world and its inhabitants (Matt. 5:44-45, 48; 6:26-30). . . . to head off a direct collision between undirected Darwinism and the doctrine of God’s sovereignty, Collins seems to depict God as a cosmic trickster who misleads people into thinking that the process by which they were produced was blind and purposeless, even when it wasn’t.²³

This Book: A Critique of Two Key Meanings of Theistic Evolution

In the chapters that follow we will provide a much more extensive critique of theistic evolution in three distinct sections of this book. Our three sections will not correspond to the three different meanings of the term evolution, but rather to three distinct disciplinary sets of concerns: scientific, philosophical, and theological. In each section of the book, however, our authors will carefully define the specific formulation of theistic evolution they are critiquing.

In the first section we provide a *scientific* critique of theistic evolution. But neither in this section, nor in any other, do we critique theistic

23. West, “Nothing New under the Sun,” 46–47.

evolution where evolution is defined as meaning merely “change over time.” Instead, our scientific critique will focus first on the version of theistic evolution that affirms the sufficiency (or creative power) of the mechanism of mutation and natural selection as an explanation for the origin of new forms of life (and the appearances of design that they manifest). The first group of essays (chapters 1–9) will show that the versions of theistic evolution that affirm the creative power of the natural selection/random mutation mechanism (as well as other purely materialistic evolutionary mechanisms) are now contradicted by a wealth of scientific evidence from an array of biological subdisciplines, including molecular biology, protein science, paleontology, and developmental biology.

We start our scientific critique of theistic evolution discussing the alleged creative power of the main mechanisms of evolutionary change because theistic evolutionists want to argue that God has worked undetectably through these various evolutionary mechanisms and processes to produce all the forms of life on our planet today. They equate and identify evolutionary processes such as natural selection and random mutation with the creative work of God. Yet, we will argue in the opening section of this book, chapters 1–9, that the main mechanisms postulated in both biological and chemical evolutionary theory lack the creative power necessary to produce genuine biological innovation and morphological novelty.

In chapter 1, Douglas Axe argues that people do not need specialized scientific training to recognize the implausibility of Darwinian (or other materialistic) explanations for the origin of living forms—though he also argues that rigorous scientific analysis reinforces our intuitive conviction that the integrated complexity of living systems could not have arisen by accidental or undirected processes. Consequently, he suggests that people of faith who yield core convictions about the intelligent design of life—out of deference to the supposed scientific authority of spokesmen for Darwinism—do so unnecessarily and with a substantial apologetic cost to their faith.

In chapter 2, I (Stephen Meyer) follow up on Axe’s argument by showing that a rigorous scientific and mathematical analysis of the neo-Darwinian process does, indeed, reinforce the pervasive intuition

to which Axe appeals. I show, based in part on some of Axe's own experimental work, that the random mutation and natural selection mechanism lacks the creative power to generate the new genetic information necessary to produce new proteins and forms of life.

In chapter 3, Matti Leisola extends our critique of the sufficiency of the neo-Darwinian mechanism. He shows, citing some of his own experimental work on DNA and proteins, that random mutational processes produce only extremely limited changes, even with the help of natural selection.

In chapter 4, we briefly shift our focus from biological evolution to chemical evolution, the branch of evolutionary theory that attempts to explain the origin of the first life from simpler nonliving chemicals. In this chapter, organic chemist James Tour shows that undirected *chemical* evolutionary processes and mechanisms have not demonstrated the creative power to generate the first living cell from simpler molecules. Basing his argument on his extensive knowledge of what it takes to synthesize organic compounds, Tour shows why known chemical processes do not provide plausible mechanisms for the synthesis of the complex bio-macromolecules and molecular machines necessary for life. We should make clear, in introducing his chapter, that Tour does not regard himself as a partisan to the debate over theistic evolution, one way or another. He has, nevertheless, kindly given us permission to publish an abridged version of a previously published essay in order to make more widely known the scientific problems associated with chemical evolutionary theory—in particular, its lack of any demonstrated mechanism for generating the molecular machinery necessary to the first life.

In chapter 5, Winston Ewert shows that attempts to solve the problem of the origin of biological information by simulating the evolutionary process in a computer environment have also failed. Instead, he shows that, to the extent that well-known evolutionary algorithms (computer programs) simulate the production of new genetic information, they do so as a consequence of information already provided to the program by the intelligent programmer who wrote the code—thus simulating, if anything, the need for intelligent design, not the sufficiency of an undirected evolutionary processes.

In chapter 6, I critique the idea that God carefully arranged matter at the beginning of the universe so as to ensure that life would inevitably evolve without any additional intelligent input or activity. In this chapter, I show why this version of theistic evolution, though attractive as a potential synthesis of the ideas of creation and evolution, fails for demonstrable scientific reasons to account for the origin of the information in the DNA molecule—and, thus, the information needed to produce the first life.

Next, in chapter 7, Jonathan Wells shows that, in addition to new genetic information, building new organisms requires information not stored in DNA—what is called “epigenetic” (or “ontogenetic”) information. He argues that this fact alone demonstrates the inadequacy of the neo-Darwinian mechanism. Whereas neo-Darwinism asserts that all the new information necessary to build new forms of life arises as the result of random mutational changes in DNA, developmental biology has shown instead that building new forms of life also depends on information not stored in the DNA molecule. For this reason, the “gene-centric” mutation and natural selection mechanism simply cannot explain the origin of anatomical novelty.

In chapter 8, I team up with Ann Gauger and Paul Nelson to show that many mainstream evolutionary biologists have now rejected orthodox neo-Darwinian evolutionary theory precisely because they recognize that the mutation/natural selection mechanism lacks the creative power to generate novel biological form. In support of this claim, we describe some of the new theories of evolution (and evolutionary mechanisms) that mainstream evolutionary biologists are now proposing as alternatives to textbook neo-Darwinism. Yet we also show that none of these new evolutionary theories invoke mechanisms with the power to produce either the genetic or the epigenetic information necessary to generate novel forms of life.

In chapter 9, Sheena Tyler describes the exquisite orchestration necessary for the development of animals from embryo to adult form. She argues that nothing about these carefully choreographed processes suggests that they might have originated as the result of random mutational tinkering or other undirected processes. Instead, she argues that they exhibit hallmarks of design.

For advocates of theistic evolution (where evolution is understood to affirm the third meaning of evolution), the growing scientific skepticism about the adequacy of the neo-Darwinian and other evolutionary mechanisms presents an acute problem, quite apart from the logical and theological considerations outlined above. If many evolutionary biologists themselves no longer agree that the mutation/selection mechanism has the creative power to explain novel biological forms, and if no alternative evolutionary mechanism has yet demonstrated that power either, then the claim that apparently unguided evolutionary processes are God's way of creating new forms of life is, increasingly, a relic of an obsolete scientific viewpoint. But that raises a question: if the evidence doesn't support the creative power of evolutionary mechanisms, why claim that these mechanisms represent the means by which God created? Why attempt to synthesize mainstream evolutionary theory with a theistic understanding of creation?

After critiquing versions of theistic evolution that affirm the sufficiency of various naturalistic evolutionary mechanisms, the second part of the science section of the book (chapters 10–17) critiques versions of theistic evolution that assume the truth of universal common descent, the second meaning of evolution discussed above. These chapters also take a critical look at the claims of evolutionary anthropologists who assert that human beings and chimpanzees have evolved from a common ancestor.

In chapter 10, paleontologist Günter Bechley and I examine the logical structure of argument for universal common descent, with a particular focus on what the fossil record can tell us about whether all forms of life do, or do not, share a common ancestor. Though theistic evolutionists often portray this part of evolutionary theory as a fact, even as they may acknowledge doubts about the creative power of the neo-Darwinian mechanism, we have become skeptical about universal common descent. In this chapter we explain why, and use the fossil evidence to illustrate how a scientifically informed person might reasonably come to doubt the arguments for universal common ancestry.

Then in chapter 11, Casey Luskin shows that a wealth of evidence from several different subdisciplines of biology, not just paleontology,

now challenges this universal common descent and the “monophyletic” picture of the history of life it presents.

In chapter 12, Paul Nelson argues that the theory of universal common descent rests less upon supporting evidence than upon a number of questionable scientific and philosophical assumptions. He argues that the theory of universal common descent has been insulated from critical testing largely because these assumptions have rarely been questioned.

In this same section of the book, we also offer several chapters challenging the idea that chimpanzees and humans, in particular, share a common ancestor. Chapter 13, by Ann Gauger, explains what is at stake in the debate about human origins. Chapter 14, by Casey Luskin, shows that the fossil record does not support the evolutionary story about the origin of human beings. Chapter 15, by Ann Gauger, Ola Hössjer, and Colin Reeves, shows that the genetic uniqueness of human beings contradicts that story as well. Chapter 16, also by Gauger, Hössjer, and Reeves, challenges theistic evolutionists who claim that evolutionary theory and its subdiscipline of population genetics have rendered untenable any belief in an original male and female pair as the parents of the entire human race.

Finally, in chapter 17 Christopher Shaw, one of the science editors of this volume, concludes this section of the book with an interesting article on the role of bias in science that helps shed light on why so many scientists have found neo-Darwinian evolutionary theory persuasive despite its evident empirical difficulties.

Our critique of theistic evolution does not stop with scientific concerns, however. In the second section of the book, we address philosophical problems with the versions of theistic evolution critiqued in our science section. Given the known scientific inadequacy of the neo-Darwinian mutation/natural selection mechanism, and the absence of any alternative evolutionary mechanism with sufficient creative power to explain the origin of major innovations in biological form and information, we argue that theistic evolution devolves into little more than an *a priori* commitment to methodological naturalism—the idea that scientists must limit themselves to strictly materialistic explanations and that scientists may not offer explanations making reference

to intelligent design or divine action, or make any reference to theology in scientific discourse.

In chapter 18, J. P. Moreland notes that, for good or ill, philosophical assumptions necessarily influence the practice of science. He argues that science and scientists, therefore, need philosophy, but also need to be more self-critical about the philosophical assumptions that they accept, lest they adopt assumptions that impede scientists in their search for the truth about the natural world.

In chapter 19, Paul Nelson and I critique the principle of methodological naturalism and also critique how theistic evolutionists invoke this methodological convention to justify their commitment to contemporary evolutionary theory despite its evident empirical shortcomings. Methodological naturalism asserts that, to qualify as scientific, a theory must explain all phenomena by reference to purely physical or material—that is, non-intelligent or non-purposive—causes or processes. We show that, though many scientists adhere to this rule, attempts to justify methodological naturalism as a rule for how science *should* function have failed within the philosophy of science. In this chapter we also critique the way theistic evolutionists invoke the God-of-the-gaps objection to reject all nonmaterialistic explanations for the origin of new forms or features of life—that is, we critique the use of this objection as a way of justifying methodological naturalism. Most importantly, we show how methodological naturalism impedes the truth-seeking function of scientific investigations of biological origins, and should, for that reason alone, be jettisoned.

In chapter 20, Stephen Dilley argues that a logically consistent theistic evolutionist should reject methodological naturalism. Dilley notes that methodological naturalism prohibits the use of theology-laden claims and that it denies that non-naturalistic theories (such as intelligent design or creationism) are “scientific.” Yet, he argues, key scientific arguments for evolutionary theory—from the *Origin* to the present—either rely on theology-laden claims or attempt to provide evidence-based refutations of non-naturalistic theories—thereby, inadvertently implying that such theories do make scientific claims.

In chapter 21, J. P. Moreland argues that adopting theistic evolution undermines the rational plausibility of Christianity. By assuming

that only scientific methods and evidence produce knowledge, and that theological and biblical teaching do not, theistic evolutionists propagate a form of scientism that forces theists to constantly revise biblical truth claims in light of the latest scientific findings or theories—however unsubstantiated, provisional, or speculative they may be. In so doing, theistic evolutionists undermine Christian confidence in the teachings of Scripture and contribute to disdain or contempt for Christian truth claims among nonbelievers.

In chapter 22, Jack Collins lays out the biblical understanding of how God works in the natural world, explaining the Bible's implicit and explicit theology of nature (its "metaphysic"). He also explains how the biblical writers, and biblically based theologians, conceive of such terms or concepts as "nature," "miracle," "science," and "design." He argues that a careful consideration of a biblical view of divine action (and interaction with nature) establishes criteria for discerning miraculous events without downplaying God's role in all natural events, and without committing the God-of-the-gaps fallacy. He shows that, whereas the theory of intelligent design is fully compatible with this biblical view of how God interacts with nature, theistic evolution is not.

In chapter 23, Garrett DeWeese points out that moral evil, caused by free moral agents, and natural evil, caused by impersonal forces in the environment, are both used as evidence against the existence of God. He argues that adopting theistic evolution makes answering these objections to Christian belief immeasurably more difficult. It does so, he explains, in the case of natural evil because theistic evolution cannot distinguish between God's original (good) acts of creation and the ongoing or current natural processes. Instead, theistic evolutionists regard the natural processes we currently observe as the means by which God created. Thus, insofar as those processes cause harm to human beings—whether through destructive mutations or through such things as earthquakes or hurricanes—theistic evolutionists must maintain that God is responsible for such "natural evil." By contrast, creationists acknowledge a distinction between God's original good acts of creation and current processes of nature that may have been affected by the acts of sinful moral agents. This distinction, DeWeese argues, allows for coherent explanations of the existence of natural evil

that does not impugn God's goodness. DeWeese offers one explanation that he favors.

In chapter 24, Colin Reeves examines the so-called "complementary" model for the interaction of science and Scripture, commonly assumed by those who promote "theistic evolution." This view of the relationship between scientific and biblical truth claims has led many theistic evolutionists to accept evolutionary claims about human origins uncritically. They do this, Reeves argues, because they assume that all scientific claims can be made "complementary" to biblical truth claims since the two different types of claims describe reality in two fundamentally different nonintersecting (though complementary) ways. Reeves argues that the complementarity model in effect sanctions doctrinal revisionism because in practice it demands the subordination of scriptural claims to scientific claims—in contrast to the Reformation emphasis on the primacy, authority, and clarity of Scripture, an emphasis that actually played a key role in the development of modern science.

In chapter 25, Tapio Puolimatka argues that current evolutionary accounts fail to explain the origin of moral conscience. He explains why the human capacity to discern moral truths cannot be reduced to merely a product of a random search through a vast set of combinatorial possibilities—in other words, a search of the sort that random mutation and natural selection allegedly can accomplish. Although theistic evolutionists assume that the idea of moral conscience as an expression of God's design for humans is fully compatible with various naturalistic causal stories about the origin of the conscience, they fail to specify a natural process that could plausibly explain its origin.

In chapter 26, John West examines how C. S. Lewis, the beloved Christian author and former tutor and "reader" in philosophy at Oxford University, viewed the theory of evolution. Though many theistic evolutionists claim him as an authoritative proponent of their view, West shows—based on original archival research as well as a careful reading of key Lewis books and essays—that he was far more skeptical of Darwinian evolution than current apologists for theistic evolution claim.

In the final section of the book, we examine specifically theological and biblical difficulties associated with those versions of theistic evolu-

tion that affirm either universal common descent, the adequacy or creative power of the mutation/selection mechanism, or both—where the two notions of evolution affirmed jointly are sometimes simply referred to as “macroevolution.” Wayne Grudem, the theological editor of this volume, will introduce these chapters in his “Biblical and Theological Introduction,” which follows.

In summary, just as there are different meanings of the term evolution, there can be different concepts of theistic evolution. In the chapters that follow we highlight the versions of theistic evolution that the authors of this book regard as problematic or untenable. We highlight several different types of difficulties—scientific, philosophical and theological—facing the most problematic formulations of theistic evolution, and focus on the tensions that arise as theistic evolutionists attempt to reconcile an essentially materialistic theory of biological origins with a theistic understanding of creation.

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Biblical and Theological Introduction

The Incompatibility of Theistic
Evolution with the Biblical
Account of Creation and with
Important Christian Doctrines

WAYNE GRUDEM

The current debate about theistic evolution is not merely a debate about whether Adam and Eve really existed (though it is about that); nor is it merely a debate about some specific details such as whether Eve was formed from one of Adam's ribs; nor is it a debate about some minor doctrinal issues over which Christians have differed for centuries.

The debate is about much more than that. From the standpoint of theology, the debate is primarily about the proper interpretation of the first three chapters of the Bible, and particularly whether those chapters should be understood as truthful historical narrative, reporting events that actually happened. This is a question of much significance, because those chapters provide the historical foundation for the rest of the Bible and for the entirety of the Christian faith. And that means the debate is also about the validity of several major Christian doctrines for which those three chapters are foundational. In Genesis 1–3, Scripture teaches essential truths about the activity of God in creation, the origin of the universe, the creation of plants and animals on the earth, the origin and

unity of the human race, the creation of manhood and womanhood, the origin of marriage, the origin of human sin and human death, and man's need for redemption from sin. Without the foundation laid down in those three chapters, the rest of the Bible would make no sense, and many of those doctrines would be undermined or lost. It is no exaggeration to say that those three chapters are essential to the rest of the Bible.

From the standpoint of science and philosophy, however, this is also a debate about scientific methodology and evidence. Specifically, the philosophical chapters in this book will ask whether the rules of science actually require scientists to consider only strictly materialistic explanations for the origins of life, so that even scientists who believe in God must affirm some kind of materialistic theory of evolution as the best scientific explanation of origins. These chapters will argue that such a limitation to materialistic explanations actually prevents scientists from pursuing the truth, and therefore that this limitation should be amended to allow for a more open search for the truth about the origins of life and the origin of the universe itself. Such a more open search for truth may in fact result in the recognition that a designing intelligence played a discernible role in the origin and diversity of life.

The science chapters in this book will also argue that much recent scientific research, rather than supporting current evolutionary accounts, in reality exposes significant challenges to evolutionary explanations of the origin and diversity of life. These chapters, and the scientific evidence they cite, suggest that no biblical scholars should feel "compelled by the scientific evidence" to interpret Genesis in a way that presupposes the truth of neo-Darwinian (or other contemporary versions of) macroevolutionary theory.

A. What This Book Is Not About

This book is not about the age of the earth. We are aware that many sincere Christians hold a "young earth" position (the earth is perhaps ten thousand years old), and many others hold an "old earth" position (the earth is 4.5 billion years old). This book does not take a position on that issue, nor do we discuss it at any point in the book.¹

1. However, the science chapters that argue against a Darwinian explanation of the fossil record operate within the commonly assumed chronological framework of hundreds of millions of years

Furthermore, we did not think it wise to frame the discussion of this book in terms of whether the Bible's teachings about creation should be interpreted "literally." That is because, in biblical studies, the phrase "literal interpretation" is often a slippery expression that can mean a variety of different things to different people.² For example, some interpreters take it to refer to a mistaken kind of wooden *literalism* that would rule out metaphors and other kinds of figurative speech, but that kind of literalism is inappropriate to the wide diversity of literature found in the Bible.

In addition, any argument about a literal interpretation of Genesis 1 would run the risk of suggesting that we think each "day" in Genesis 1 must be a *literal* twenty-four-hour day. But we are aware of careful interpreters who argue that a "literal" interpretation of the Hebrew word for "day" still allows the "days" in Genesis 1 to be long periods of time, millions of years each. Yet other interpreters argue that the days could be normal (twenty-four-hour) days but with millions of years separating each creative day. Others understand the six creation days in Genesis to be a literary "framework" that portrays "days of forming" and "days of filling." Still others view the six days of creation in terms of an analogy with the work-week of a Hebrew laborer.³ This book is not concerned with deciding which of these understandings of Genesis 1 is correct, or which ones are properly "literal."

Instead, the question is whether Genesis 1–3 should be understood as a *historical narrative* in the sense of *reporting events that the author*

for the earth's geological strata. We recognize that Christians who hold a young earth view would assume a different chronological framework.

2. See the discussion of various senses of "literal" interpretation in Vern Poythress, *Understanding Dispensationalists* (Grand Rapids, MI: Zondervan, 1987), 78–96. Poythress concludes, "What is literal interpretation? It is a confusing term, capable of being used to beg many of the questions at stake in the interpretation of the Bible. We had best not use the phrase" (96). See also his helpful discussion of the terms "literal" and "figurative" in "Correlations with Providence in Genesis 2," *Westminster Theological Journal* (WTJ) 78, no. 1 (Spring 2016): 44–48; also his insightful article, "Dealing with the Genre of Genesis and Its Opening Chapters," *WTJ* 78, no. 2 (Fall 2016): 217–230.

3. See John C. Lennox, *Seven Days That Divide the World: The Beginning according to Genesis and Science* (Grand Rapids, MI: Zondervan, 2011), 39–66, for a clear and perceptive explanation of these various understandings of the days of creation. Lennox favors the view (which I find quite plausible) that Genesis 1 speaks of "a sequence of six *creation* days; that is, days of normal length (with evenings and mornings as the text says) in which God acted to create something new, but days that might well have been separated by long periods of time" (54, emphasis original). He also favors the view that the original creation of the heavens and earth in Genesis 1:1–2 may have occurred long before the first "creation day" in Genesis 1:3–5, which would allow for a very old earth and universe (53).

wants readers to believe actually happened.⁴ In later chapters, my argument, and the additional arguments of John Currid and Guy Waters, will be that Genesis 1–3 should not be understood as primarily figurative or allegorical literature, but should rather be understood as historical narrative, though it is historical narrative with certain unique characteristics. (See chapters 27, 28, and 29.)

Finally, this book is not about whether people who support theistic evolution are genuine Christians or are sincere in their beliefs. We do not claim in this book that anyone has carelessly or lightly questioned the truthfulness of Genesis 1–3. On the contrary, the supporters of theistic evolution with whom we interact give clear indications of being genuine, deeply committed Christians. Their writings show a sincere desire to understand the Bible in such a way that it does not contradict the findings of modern science regarding the origin of living creatures.

But we *are* concerned that they believe that the theory of evolution is so firmly established that they must accept it as true and must use it as their guiding framework for the interpretation of Genesis 1–3.

For example, Karl Giberson and Francis Collins write,

The evidence for macroevolution that has emerged in the past few years is now overwhelming. Virtually all geneticists consider that the evidence proves common ancestry with a level of certainty comparable to the evidence that the Earth goes around the sun.⁵

Our goal in this book is to say to our friends who support theistic evolution, and to many others who have not made up their minds about this issue,

4. In arguing for the historicity of the early chapters of Genesis, C. John Collins rightly says, “In ordinary English a story is ‘historical’ if the author wants his audience to believe the events really happened” (C. John Collins, “A Historical Adam: Old-Earth Creation View,” in *Four Views on the Historical Adam*, ed. Matthew Barrett and Ardel B. Caneday [Grand Rapids, MI: Zondervan, 2013], 147). Collins has a helpful discussion of what is meant by “history” on pages 146–148.

Craig Blomberg says, “a historical narrative recounts that which actually happened; it is the opposite of fiction” (*The Historical Reliability of the Gospels* [Downers Grove, IL: InterVarsity Press, 1987], xviii, n2).

See also the discussion by V. Phillips Long, *The Art of Biblical History* (Grand Rapids, MI: Zondervan, 1994), 58–87. Long prefers the term “historiography” (that is, the verbal report of events in the past) for what I am calling “historical narrative,” but he recognizes that authors can define “history” and “historical narrative” in different ways. His conclusion is helpful: “We conclude then that historiography involves a creative, though constrained, attempt to depict and interpret significant events or sequences of events from the past” (87).

5. Karl Giberson and Francis Collins, *The Language of Science and Faith* (Downers Grove, IL: InterVarsity, 2011), 49.

1. that recent scientific evidence presents such significant challenges to key tenets of evolutionary theory that no biblical interpreter should think that an evolutionary interpretation of Genesis is “scientifically necessary”;
2. that theistic evolution depends on a strictly materialistic definition of science that is philosophically problematic; and
3. that the Bible repeatedly presents as actual historical events many specific aspects of the origin of human beings and other living creatures that cannot be reconciled with theistic evolution, and that a denial of those historical specifics seriously undermines several crucial Christian doctrines.

B. Theistic Evolution Claims that Genesis 1–3 Is Not a Historical Narrative That Reports Events That Actually Happened

1. Genesis 1–3 as Figurative or Allegorical Literature, Not Factual History

At the heart of theistic evolution⁶ is the claim that the first three chapters of the Bible should not be understood as a historical narrative in the sense of claiming that the events it records actually happened. That is, these chapters should rather be understood as primarily or entirely figurative, allegorical, or metaphorical literature.

As mentioned in note 6, above, the BioLogos Foundation hosts the primary website for thoughtful material relating to theistic evolution. Some of its writers are quite forthright in their claims, such as Denis Lamoureux, who says bluntly, “Adam never existed,”⁷ and, “Holy

6. The BioLogos website, hosted by the BioLogos Foundation, is the primary source for thoughtful material relating to theistic evolution. The authors featured on BioLogos usually prefer the term “evolutionary creation” to the term “theistic evolution,” but both terms are found in their literature. We have kept the term “theistic evolution” in this book because it has been the standard phrase used to describe this position for a century or more in theological discussion. (See, e.g., Louis Berkhof, *Systematic Theology* [Grand Rapids, MI: Eerdmans, 1941], 162: “Theistic evolution is not tenable in the light of Scripture.” Berkhof also refers to the earlier critique of theistic evolution in the book by Alfred Fairhurst, *Theistic Evolution* [n.p.: Standard Publishing, 1919]).

In addition, the term “evolutionary creation” seems to us to be misleading, because people who support theistic evolution do not believe in “creation” in the ordinary sense that Christians use the term, to refer to God’s direct activity in creating specific plants and animals and in creating human beings; rather, they mean only the initial *creation of matter* with properties that would lead to the evolution of living things. Francis Collins himself had earlier argued against using the word “creation” in connection with theistic evolution “for fear of confusion” (*The Language of God* [New York: Free Press, 2006], 203).

7. Denis Lamoureux, “No Historical Adam: Evolutionary Creation View,” in *Four Views on the Historical Adam*, Barrett and Caneday, 58. The same statement by Lamoureux is found in

Scripture makes statements about how God created living organisms that in fact never happened,” and, “Real history in the Bible begins roughly around Genesis 12 with Abraham.”⁸ Elsewhere on the BioLogos website, Peter Enns argues that “Maybe Israel’s history happened first, and the Adam story was written to reflect that history. In other words, the Adam story is really an Israel story placed in primeval time. It is not a story of human origins but of Israel’s origins.”⁹

Others are less specific about these details but still claim that Genesis 1–3 is not historical narrative. Francis Collins says these chapters should be understood as “poetry and allegory,”¹⁰ and Denis Alexander views Genesis 1–3 as “figurative and theological” literature.¹¹

Yet another approach comes from John H. Walton. He says the accounts of the forming of Adam and Eve in Genesis 1–2 should not be understood as “accounts of how those two individuals were uniquely formed,” but rather should be understood as stories about “archetypes,” that is, stories that use an individual person as sort of an allegory for Everyman, someone who “embodies all others in the group” (in this case, the human race).¹² Therefore Walton says that the Bible makes “no claims” regarding “biological human origins,” for Genesis 2 “talks about the *nature of all* people, not the unique *material origins* of Adam and Eve.”¹³ In fact, he says that “the Bible does not really offer any information about material human origins.”¹⁴

In all of these approaches, the result is the same: Genesis 1–3 (or at least Genesis 1–2) should not be understood as claiming to be a report of actual historical events. In order to understand the reasons for this conviction, we first need to understand theistic evolution in more detail.

his article on the BioLogos website at Denis Lamoureux, “Was Adam a Real Person? Part 2,” *BioLogos*, September 11, 2010, <http://biologos.org/blogs/archive/was-adam-a-real-person-part-2>.

8. Lamoureux, “No Historical Adam,” 56, 44.

9. Peter Enns, “Adam Is Israel,” *BioLogos*, March 2, 2010, <http://biologos.org/blogs/archive/adam-is-israel>. In the next paragraph Enns says that he himself holds this view. Giberson and Collins mention this view of Enns as another possible interpretation of the Adam and Eve story (*Language of Science and Faith*, 211).

10. Collins, *Language of God*, 206; see similar statements on 150, 151, 175, 207.

11. Denis Alexander, *Creation or Evolution: Do We Have to Choose?*, 2nd. ed. (Oxford and Grand Rapids, MI: Monarch, 2014), 185; see also 189, 197, 230, 320.

12. John H. Walton, *The Lost World of Adam and Eve: Genesis 2–3 and the Human Origins Debate* (Downers Grove, IL: InterVarsity Press, 2015), 74.

13. *Ibid.*, 181, emphasis original; see also 33–34, 35–45, 81.

14. *Ibid.*, 192. For an extensive reply to Walton’s claims, see the detailed arguments of John Currid in chapter 28 of this book.

2. A Definition of Theistic Evolution

As Stephen Meyer explained above in his “Scientific and Philosophical Introduction,” our focus in this book is on the version of theistic evolution that affirms “the sufficiency (or creative power) of the unguided, undirected mechanism of mutation and natural selection as an explanation for the origin of new forms of life (and the appearances of design that they manifest).”¹⁵ In brief summary form, then, the form of theistic evolution that we are respectfully taking issue with is this belief:

God created matter and after that did not guide or intervene or act directly to cause any empirically detectable change in the natural behavior of matter until all living things had evolved by purely natural processes.¹⁶

This definition is consistent with the explanation of prominent theistic evolution advocates Karl Giberson and Francis Collins:

The model for divinely guided evolution that we are proposing here thus requires no “intrusions from outside” for its account of God’s creative process, except for the origins of the natural laws guiding the process.¹⁷

More detail is provided in an earlier book by Francis Collins, eminent geneticist and founder of the BioLogos Foundation. He explains theistic evolution in this way:

1. The universe came into being out of nothingness, approximately 14 billion years ago.
2. Despite massive improbabilities, the properties of the universe appear to have been precisely tuned for life.
3. *While the precise mechanism of the origin of life on earth remains unknown, once life arose, the process of evolution and natural selection permitted the development of biological diversity and complexity over very long periods of time.*

15. See page 50.

16. This definition of theistic evolution was written by the editors of the present volume as a concise summary of the view we are opposing. In the paragraphs that follow, I have provided several quotations from authors who support theistic evolution in this sense, and these quotations give more detailed explanations of what the viewpoint involves.

17. Giberson and Collins, *Language of Science and Faith*, 115.

4. *Once evolution got underway, no special supernatural intervention was required.*
5. Humans are part of this process, sharing a common ancestor with the great apes.
6. But humans are also unique in ways that defy evolutionary explanation and point to our spiritual nature. This includes the existence of the Moral Law (the knowledge of right and wrong) and the search for God that characterizes all human cultures throughout history.¹⁸

3. God Was the Creator of Matter, Not of Living Creatures

What then do theistic evolutionists mean when they say that “God is the creator of all life,” as in this statement:

At BioLogos, we present the Evolutionary Creationism (EC) viewpoint on origins. Like all Christians, we fully affirm that *God is the creator of all life*—including human beings in his image. We fully affirm that the Bible is the inspired and authoritative word of God. We also accept the science of evolution as the best description for how God brought about the diversity of life on earth.¹⁹

They frequently mean that *God created matter* in the beginning with certain physical properties and then *the properties of matter* were enough to bring about all living things without any further direct activity by God.²⁰ This eliminates the problem of any conflict with science, because modern evolutionary theory also holds that *matter by itself* evolved over a long period of time into all living things.

18. Francis S. Collins, *The Language of God: A Scientist Presents Evidence for Belief* (New York: Free Press, 2006), 200, emphasis added.

19. “How Is BioLogos Different from Evolutionism, Intelligent Design, and Creationism?” *BioLogos*, <http://biologos.org/common-questions/christianity-and-science/biologos-id-creationism>.

20. See, e.g., Alexander, *Creation or Evolution*, 436.

Since the question of the origin of life is a different question from the evolution of simple living organisms into complex organisms, some proponents of theistic evolution seem to allow for the possibility of a direct intervention of God at the point of the first creation of life. E.g., note the unspecified possibilities suggested in the words of Francis Collins: “*While the precise mechanism of the origin of life on earth remains unknown*, once life arose, the process of evolution and natural selection permitted the development of biological diversity and complexity over very long periods of time. . . . Once evolution got underway, no special supernatural intervention was required” (Collins, *Language of God*, 200, emphasis added).

However, in a subsequent book Karl Giberson and Francis Collins seem to expect that eventually a materialistic hypothesis will explain how life could have originated from nonliving matter: see *Language of Science and Faith*, 169–175.

4. There Were Not Merely Two, but Ten Thousand Ancestors for the Human Race

Regarding the origin of the human race, Christians who support theistic evolution differ over whether Adam and Eve actually existed as historical persons. Some (such as Denis Lamoureux, cited above) do not believe that Adam and Eve ever existed, while others believe in a historical Adam and Eve. But even this “historical Adam and Eve” is still not the Adam and Eve of the Bible, because they do not believe that they were the first human beings or that the whole human race descended from them. This is because they claim that current genetic studies indicate that the human race today is so diverse that we could not have descended from just two individuals such as an original Adam and Eve.

Francis Collins writes, “Population geneticists . . . conclude that . . . our species . . . descended from a common set of founders, approximately 10,000 in number, who lived about 100,000 to 150,000 years ago.”²¹ Similarly, Denis Alexander says, “The founder population that was the ancestor of all modern humans . . . was only 9,000-12,500 reproductively active individuals.”²²

Therefore, those Christians who support theistic evolution and also want to retain belief in a historical Adam and Eve propose that God chose one man and one woman from among the thousands of human beings who were living on the earth and designated the man as “Adam” and the woman as “Eve.” He then began to relate to them personally, and made them to be representatives of the entire human race.

But on this view, where did this early population of 10,000 human beings come from? We should not think that they came from just one “first human being” in the process of evolution, because there never was just one “first” human being from which everyone else descended. Rather, the evolutionary mutations in earlier life forms that led to the human race occurred bit by bit among thousands of different nearly human creatures. Some developed greater balance and the ability to walk upright. Others developed physical changes in their vocal organs

21. Collins, *Language of God*, 126; see also 207. Giberson and Collins claim that humans have descended from “several thousand people . . . not just two” (*Language of Science and Faith*, 209).

22. Alexander, *Creation or Evolution*, 265.

that would enable complex human speech. Still others developed larger brains and the capacity for abstract human reasoning. And there were many other such changes. Over time, the creatures with *some* of these beneficial mutations had an adaptive advantage, and more of their offspring survived. Eventually they began to mate with other creatures who had *other* human-like mutations, and eventually many thousands of human beings emerged from this evolutionary process, all of them descended from earlier, more primitive organisms.²³

5. Then Who Were Adam and Eve?

What happens, then, to the biblical narratives about Adam and Eve? Denis Alexander describes several possible models (which he labels A, B, C, D, E; see note 24) by which to understand both the biblical story of Adam and Eve and modern evolutionary theory.²⁴ He favors “model C,”²⁵ which he explains as follows:

According to model C, God in his grace chose a couple of Neolithic farmers in the Near East, perhaps around 8,000 years ago (the precise date is of little importance for this model), or maybe a community of farmers, to whom he chose to reveal himself in a special way, calling them into fellowship with himself—so that they might know him as a personal God. . . . This first couple, or community, have been termed *Homo divinus*, the divine humans, those who know the one true God, corresponding to the Adam and Eve of the Genesis account. . . . Certainly religious beliefs existed before this time, as people sought after God or gods in different parts of the world, offering their own explanations for the meaning of their lives, but *Homo divinus* marked the time at which God chose to

23. Alexander writes, “It should not be imagined that this [modern human] population somehow emerged ‘all at once’ with the distinctive features of anatomically modern humans. The . . . population . . . which eventually evolved into anatomically modern humans, must have done so over a period of tens of thousands of years. . . . Evolution, remember, is a gradual process” (*Creation or Evolution*, 298).

24. In model A, the narrative of Adam and Eve “is a myth” that teaches eternal truths without being constrained by historical particularity (288). In model B, Adam and Eve are either a mythical couple whose story represents something of the origin of the human race, or they are part of the earliest human population living in Africa perhaps 200,000 years ago (288–289). Model C is the one Alexander favors (see main text). Model D represents an old earth creationist view, with Adam and Eve created directly by God, and model E represents a young earth creationist view (294). Alexander thinks that models D and E are scientifically indefensible (282–304).

25. Alexander, *Creation or Evolution*, 303.

reveal himself and his purposes for humankind for the first time. . . . [Adam] is . . . viewed as the federal head of the whole of humanity alive at that time. . . . The world population in Neolithic times is estimated to lie in the range of 1-10 million, genetically just like Adam and Eve, but in model C it was these two farmers out of all those millions to whom God chose to reveal himself.²⁶

N. T. Wright proposes a similar explanation:

Perhaps what Genesis is telling us is that God chose one pair from the rest of the early hominids for a special, strange, demanding vocation. This pair (call them Adam and Eve if you like) were to be the representatives of the whole human race.²⁷

Giberson and Collins propose a similar view:

A common synthetic view integrating the biblical and scientific accounts sees human-like creatures evolving as the scientific evidence indicates, steadily becoming more capable of relating to God. At a certain point in history, God entered into a special relationship with those who had developed the necessary characteristics, endowing them with the gift of his image. . . . this view can fit whether the humans in question constituted a group—symbolized by Adam and Eve—or a specific male-female pair.²⁸

The difficulty with all of these theistic evolution explanations of “Adam and Eve” arises because they differ significantly from the biblical account in Genesis 1–3. They all propose that many thousands of human beings were on the earth prior to Adam and Eve, and so Adam and Eve were not the first human beings, nor has the entire human race descended from them. In addition, there was human death and human sin (such as violence, instinctive aggression, and worship of false gods)²⁹ long before Adam and Eve.

26. Ibid., 290–291.

27. N. T. Wright, “Excursus on Paul’s Use of Adam,” in Walton, *Lost World of Adam and Eve*, 177. John Walton himself proposes that Adam and Eve can be seen as “elect individuals drawn out of the human population and given a particular representative role in sacred space” (Walton, “A Historical Adam: Archetypal Creation View,” in *Four Views on the Historical Adam*, 109).

28. Giberson and Collins, *Language of Science and Faith*, 212.

29. Denis Alexander says, “Certainly religious beliefs existed before this time [the time of Adam and Eve], as people sought after God or gods in different parts of the world, offering their own explanations for the meaning of their lives” (*Creation or Evolution*, 290).

6. Twelve Differences between Events Recounted in the Bible and Theistic Evolution

We can now enumerate twelve points at which theistic evolution (as currently promoted by the prominent supporters cited) differs from the biblical creation account taken as a historical narrative. According to theistic evolution:

1. Adam and Eve were not the first human beings (and perhaps they never even existed).
2. Adam and Eve were born from human parents.
3. God did not act directly or specially to create Adam out of dust³⁰ from the ground.
4. God did not directly create Eve from a rib³¹ taken from Adam's side.
5. Adam and Eve were never sinless human beings.
6. Adam and Eve did not commit the first human sins, for human beings were doing morally evil things³² long before Adam and Eve.
7. Human death did not begin as a result of Adam's sin, for human beings existed long before Adam and Eve and they were always subject to death.
8. Not all human beings have descended from Adam and Eve, for there were thousands of other human beings on Earth at the time that God chose two of them as Adam and Eve.
9. God did not directly act in the natural world to create different "kinds" of fish, birds, and land animals.
10. God did not "rest" from his work of creation or stop any special creative activity after plants, animals, and human beings appeared on the earth.

30. It is possible that "dust" in Genesis 2:7 refers to a collection of different kinds of nonliving materials from the earth. My argument in a later chapter does not depend on that interpretative detail. See further discussion of the Hebrew word for "dust" by John Currid ("Theistic Evolution Is Incompatible with the Teachings of the Old Testament") on pages 868–869.

31. It is possible that the "rib" was accompanied by other material substances taken from Adam's body, for Adam himself says, "This at last is bone of my bones *and flesh of my flesh*" (Gen. 2:23). My overall argument in a later chapter is not affected by that difference. See further discussion of the Hebrew word for "rib" on pages 802–803 and 859–860.

32. Some advocates of theistic evolution may claim that human beings prior to Adam and Eve did not have a human moral conscience, but they would still admit that these human beings were doing selfish and violent things, and worshipping various deities, things that from a biblical moral standard would be considered morally evil.

11. God never created an originally “very good” natural world in the sense of a world that was a safe environment, free of thorns and thistles and similar harmful things.
12. After Adam and Eve sinned, God did not place any curse on the world that changed the workings of the natural world and made it more hostile to mankind.

Clearly, these statements denying what the Genesis text at least appears to teach about God’s active role (or supernatural acts) in creation, about the existence of an original man and woman from whom the rest of the human race is descended, and about the moral fall of human beings as the result of the sin of Adam, presuppose the truth of contemporary evolutionary theory. They also presuppose the truth of the evolutionary narrative about the origin of man by way of undirected material processes from lower primates—as *the proponents of theistic evolution openly acknowledge*.

Yet, as I will argue in chapter 27, no one would derive such a reading of the narrative from simply reading the biblical text alone. In fact, each of these twelve claims contradicts one or more parts of the text in Genesis 1–3, if it is understood as historical narrative (as I will argue that it must be understood).

However, even if some readers disagree with some of my exegesis,³³ and interpret *some* parts or elements of the narrative in Genesis 1–3 as figurative or allegorical, that would not eliminate the tension between the Genesis text and the claims of theistic evolution. Instead, to remove the contradiction between the two would require denying the historicity of nearly *all* of the text in Genesis 1–3.³⁴ In other words, even if interpreters acknowledge that Genesis uses some figures of speech or allegorical language to convey deeper, but concrete, historical realities

33. Some of the authors in the science and philosophy sections of the present volume may not agree with my closely historical reading of each part of the Genesis text. But they would still agree that theistic evolution contradicts significant historical claims in Genesis that are foundational to key Christian doctrines.

34. As I mentioned above, some supporters of theistic evolution still affirm the existence of an early couple named “Adam” and “Eve,” but even then, the originally sinful Adam and Eve that they affirm, who were descended from human parents and were selected by God out of thousands of human beings already on the earth, are far different from the Adam and Eve found in the Bible. Therefore it is unclear exactly what parts of Genesis 1–3 would be affirmed as historically true by supporters of theistic evolution, if any parts at all.

(as some interpreters have),³⁵ theistic evolution still contradicts such a reading of the text.

In addition, I will argue in chapter 27 that to deny all historical import to what the biblical text claims (as opposed to what an evolutionary reading of the text might impose on it) would undermine a number of core Christian doctrines.

For example, however one interprets the sequence of events described in Genesis 1, the chapter clearly seems to affirm that God *acted* to create plants, animals, and man—that God actively *made* something, or *did* something, in creation. Yet according to theistic evolution, God did not *act* directly, discretely, or discernibly in time to create plants, animals or man. Indeed, theistic evolution insists that after the creation of the universe at the Big Bang, God did not *actively make* anything, but merely upheld (or observed) the ongoing natural processes that were themselves directly responsible for the origin of all life forms.

Such a revisionist understanding of the doctrine of the creation certainly agrees better with a contemporary neo-Darwinian understanding of biological origins—since that theory affirms the creative power of the mindless, undirected process of natural selection and random variation—but it does not comport well with a natural reading of the text of Genesis or the historic doctrine of the Christian church regarding creation. According to the doctrine of creation, God’s powerful creative words, not natural selection and random mutation, were responsible for the creation of living creatures. Indeed, the New Testament further specifies that the eternal Son of God, the second person of the Trinity—not an undirected or impersonal material process—was the *active* agent that carried out God’s creative works: “*All things were made through him*, and without him was not any thing made that was made” (John 1:3; see also 1 Cor. 8:6; Heb. 1:2).

Similarly, however broadly one interprets the story of Adam and Eve with the serpent in the garden of Eden, the story clearly seems to affirm—at the very least—that an act of rebellion by the common parents of the whole human race resulted in their descendants inher-

35. Indeed, even some of the authors in this book would accept that Genesis may well be using some figures of speech to convey such concrete historical realities.

iting a fallen or flawed moral nature (note the progressive proliferation of sin among Adam and Eve's descendants that is chronicled in Genesis 4–6). Yet, by denying even such a minimalist historical interpretation of Genesis 1, theistic evolution not only contradicts the doctrine of the fall, it also results in an undermining of the doctrine of the atonement. This becomes evident when we realize that the New Testament teaches that the sacrifice of Jesus Christ was necessary because of a corrupt human nature that *all* men and women inherited from common parents (Adam and Eve). Yet, theistic evolutionists either (a) deny that Adam and Eve existed, or (b) claim that if they existed, Adam and Eve did not fall from innocence into sin and/or (c) claim that not all human beings are descended from Adam—in all cases fatally undermining the idea that all human beings received a morally corrupted nature from Adam as a result of a single act of rebellion against God (“one trespass led to condemnation for all men. . . . by the one man's disobedience the many were made sinners”; Rom. 5:18–19).

Yet, if there was no Adam and no Eve, and/or if they did not fall from a state of moral innocence into sin, and if Adam's corrupted sin nature was not inherited by all his human descendants, then it is hard to understand the very precise later biblical explanations of the parallel way in which Christ's atoning sacrifice gained forgiveness for all who were represented by him.³⁶ In fact, someone might argue that, if Paul was wrong about the entire human race descending from Adam, he must also have been wrong about all human beings *inheriting* a common sin nature from Adam, and therefore, he could well be wrong about our gaining forgiveness and righteousness through our representation by Christ. It is unmistakable how Paul explicitly connects representation by Adam and representation by Christ:

For if, because of one man's trespass, death reigned through that one man, much more will those who receive the abundance of grace and the free gift of righteousness reign in life through the one man Jesus Christ. Therefore, as one trespass led to condemnation for all men, so one act of righteousness leads to justification and life

36. This argument is made in much more detail by Guy Waters (chapter 29, “Theistic Evolution Is Incompatible with the Teachings of the New Testament”).

for all men. For as by the one man's disobedience the many were made sinners, so by the one man's obedience the many will be made righteous. (Rom. 5:17–19)

In my later chapter, I will argue that not only the doctrines of creation and the atonement are undermined by theistic evolution, but several other doctrines as well.

Here, then, is a brief summary of my argument in that later chapter:

1. A nonhistorical reading of Genesis 1–3 does not arise from factors in the text itself but rather depends upon a prior commitment to an evolutionary framework of interpretation, a framework that the science and philosophy chapters in this volume show to be unjustified.
2. Several literary factors within Genesis itself give strong evidence that Genesis 1–3 is intended to be understood as historical narrative, claiming to report events that actually happened.
3. Both Jesus and the New Testament authors, in ten separate New Testament books, affirm the historicity of several events in Genesis 1–3 that are inconsistent with the theory of theistic evolution.
4. If the historicity of several of these events in Genesis 1–3 is denied, a number of crucial Christian doctrines that depend on these events will be undermined or lost.

In addition to my chapter, the biblical and theological section of this book contains four other chapters:

In chapter 28, John Currid analyzes in further detail specific Old Testament passages that are incompatible with theistic evolution.

In chapter 29, Guy Waters similarly analyzes specific New Testament passages that are incompatible with theistic evolution.

In chapter 30, Gregg Allison argues that, throughout the history of the church, those who were recognized as leaders and teachers in the church were required to affirm the belief that God is the “Maker of heaven and earth, and of *all things visible* and invisible” (Nicene Creed), an affirmation incompatible with theistic evolution.

In chapter 31, Fred Zaspel concludes that the eminent nineteenth-century Princeton theologian B. B. Warfield, though often cited as a

supporter of theistic evolution, would not have agreed with theistic evolution as it is understood today.

But before you reach those chapters, please consider the arguments and evidence in the science and philosophy chapters, for they will show that no one today should feel compelled by modern science to adopt an evolutionary framework for interpreting Genesis 1–3, yet that is precisely what contemporary theistic evolutionists do.

“This volume fills a wide and expanding gap for Christians who continue to struggle with the relationship of evangelical Christianity to the claims of science. Specifically, for those who have rightly rejected the claims of unguided evolution, this book takes on the similar challenge of the possibility of theistic evolution. Scholarly, informative, well-researched, and well-argued, this will be the best place to begin to ferret out reasons for conflict among Christians who take science seriously. I highly recommend this resource.”

K. Scott Oliphint, Professor of Apologetics and Systematic Theology and Dean of Faculty, Westminster Theological Seminary

“*Theistic evolution* means different things to different people. This book carefully identifies, and thoroughly debunks, an insidious, all-too-commonly accepted sense of the phrase even among Christians: that there is no physical reason to suspect life was designed, and that evolution proceeded in the unguided, unplanned manner Darwin himself championed.”

Michael J. Behe, Professor of Biological Sciences, Lehigh University; author, *Darwin's Black Box* and *The Edge of Evolution*

“Evangelicals are experiencing unprecedented pressure to make peace with the Darwinian theory of evolution, and increasing numbers are waving the white flag. The tragic irony is that evolutionary theory is more beleaguered than ever in the face of multiplying scientific challenges and growing dissent. Until now there has been no consolidated scholarly response to theistic evolution that combines scientific, philosophical, and theological critiques. I was excited to hear about this ambitious project, but the final book has exceeded my expectations. The editors have assembled an impressive cast of experts and the content is top-notch. Theistic evolutionists, and those swayed by their arguments, owe it to themselves to read and digest this compendium of essays. This book is timely and necessary—quite literally a godsend.”

James N. Anderson, Associate Professor of Theology and Philosophy, Reformed Theological Seminary, Charlotte; author, *What's Your Worldview?*

“Repeating the error of medieval Christianity, theistic evolution absolutizes the words of finite, fallible humans and relativizes the Word of an infinite, infallible God. As this tremendous and timely collection thoroughly demonstrates, scientific stagnation, circular philosophy, and heterodox theology are the inevitable results. This is simply the best critique of theistic evolution available.”

Angus Menuge, Chair of Philosophy, Concordia University Wisconsin; President, Evangelical Philosophical Society; author, *Agents Under Fire: Materialism and the Rationality of Science*; Editor, *Reading God's World: The Scientific Vocation*

“This significant book persuasively argues that theistic evolution fails as a theory—scientifically, philosophically, and biblically. And with its broad-ranging collection of essays, it mounts a very impressive case. Strongly recommended, both for those who seek to defend Christianity intelligently and for those who find Christianity implausible because of the claims of neo-Darwinism.”

Michael Reeves, President and Professor of Theology, Union School of Theology

“The theistic evolution solution to the creation-evolution controversy herein encounters a substantial, sustained, and trenchant critique. The team of scientific, philosophical, and theological scholars assembled by the editors have joined to confront the venerable theory with a stinging challenge that its adherents will have to answer if they value their scholarly integrity. This is necessary reading for those who wrestle with the great questions surrounding the origins of life.”

Peter A. Lillback, President, Westminster Theological Seminary

“The theory of theistic evolution is certainly not new. But as a vigorous antagonist to evangelical Christianity, it has leaped to new life on the cultural stage. Most Christians have the sense to reject the evolutionary model of Darwin with its pronounced atheism, but they are sometimes intrigued by the possibility of theistic evolution. In this book, evangelical believers are treated to a serious assessment of the claims of theistic evolution at the hands of some of the greatest thinkers God has ever given to the church. These assessments are thorough, exciting, and support the biblical creation story in unique and new ways. If you intend to read only one volume to bring you up to date on cultural challenges to Christianity, this book is the one you need to read.”

Paige Patterson, President, Southwestern Baptist Theological Seminary

“This landmark achievement contains an amazing collection of chapters by a powerful group of fully qualified experts in molecular biology, mathematics, philosophy, and theology. The chapters are clear, detailed in addressing all aspects of theistic evolution, and of a tone in keeping with 1 Peter 3:15: ‘with gentleness and respect.’ I consider this a must-have book for any Christian who wants to be able to give compelling answers to others who believe in theistic evolution.”

Richard A. Carhart, Professor Emeritus of Physics, University of Illinois at Chicago

“‘In wisdom you have made them all,’ says the psalmist of God’s activities in nature (Ps. 104:24). But believers today, often blinded by modern science, fail to see that divine wisdom. This valuable volume challenges the assumptions of much scientific endeavor and proposes a fresh paradigm that is open to God’s involvement in nature. It deserves a wide and thoughtful readership.”

Gordon Wenham, Emeritus Professor of Old Testament, University of Gloucestershire, United Kingdom

“This book offers a much-needed, comprehensive critique of evolutionary creationism (theistic evolution), covering its scientific, philosophical, theological, and biblical deficiencies. It devotes much space in particular to the scientific side. This focus is needed because of the common, unwarranted assumption that Darwinism is doing well as measured by scientific evidence. Several articles, from different angles, show how much Darwinism depends on seeing all biological evidence through the lens of a prior commitment to faith in the philosophy of naturalism—particularly the ungrounded assumption that unguided natural forces must suffice as a complete account of origins.”

Vern S. Poythress, Professor of New Testament Interpretation, Westminster Theological Seminary

“Few scholars even marginally knowledgeable regarding the nature of this debate could read objectively the lineup of scholars in this volume and not be impressed. Beyond the scholars’ academic credentials, the topics covered are both sophisticated and timely. For this reviewer, the experience caused me to respond time and again: ‘I want to start right there . . . or maybe there . . . wow—have to read that one first . . .’ The topic is not always an easy target, but after almost one thousand pages of critique across interdisciplinary lines, I do not think that it could be bettered. Kudos! Highly recommended.”

Gary R. Habermas, Distinguished Research Professor and Chair,
Department of Philosophy, Liberty University

“As the debate over the origins of the universe, earth, and humans continues, and Christians grapple to understand the relationship between science and Scripture, evolution and creation, the voices in this book need to be heard. Scientific data need not be in opposition to what the Bible teaches about God and his world. The big questions about life are simply beyond the reach of ‘objective’ analysis. This volume critiques theologically and philosophically the flaws of positions that marginalize God from the process.”

James Hoffmeier, Professor of Old Testament and Ancient Near Eastern
History and Archaeology, Trinity Evangelical Divinity School

“*Theistic Evolution* is a carefully crafted, academically sophisticated interdisciplinary challenge to the attempt to wed Christian theism to any version of the Darwinian project. I am awed by its scope and by the magnificent success of its intentions. Whether your interest is in the scientific deficiencies, the philosophical failings, or the theological dangers of Darwinism hitched to theism, look no further than this thorough analysis. *Theistic Evolution* is simply the most comprehensive and convincing critique of the topic I’ve ever read—a singular resource for careful thinkers—replacing a dozen books on my shelf.”

Gregory Koukl, President, Stand to Reason; author, *Tactics* and *The Story of Reality*

“An increasing number of evangelicals are advocating theistic evolution as the best explanation of human origins, thereby denying the special creation of a historical Adam. Without taking any specific view as to the age to the earth, this important new book demonstrates that theistic evolution fails to take proper account of Genesis 1–3 as a historical narrative. Leading scholars from a variety of academic disciplines argue that theistic evolution is exegetically ill-founded, theologically damaging, scientifically implausible, and philosophically unjustifiable. Written with an irenic tone toward those it critiques, this book will help guard against false teaching in the church that undermines the gospel and will also provide apologetic help for confident evangelism in a secular world.”

John Stevens, National Director, Fellowship of Independent Evangelical Churches, United Kingdom

“With the ‘death of God’ and the ‘hermeneutics of suspicion’ having captured the academy decades ago, the apologetic discussion moved decisively to the nature and origin of human beings. With this volume, the editors and contributors to *Theistic Evolution* have given us an important and much-needed resource for the conversation currently taking place within evangelicalism. Comprehensive in its breadth, specific in its critique, and confidently nuanced in its tone, each chapter contributes to a thorough rebuttal of the idea that theistic evolution is compatible with either historic Christian faith, sound reasoning, or rigorous science. But while written by specialists, *Theistic Evolution* is remarkably approachable to the average reader. I highly recommend this volume to students, pastors, educators, and anyone else who cares deeply about the discussion of human origins. This is a major contribution to one of the most important debates of our time.”

Michael Lawrence, Senior Pastor, Hinson Baptist Church, Portland, Oregon; author, *Biblical Theology in the Life of the Church*

“Under the banner of ‘theistic evolution,’ a growing number of Christians maintain that God used evolution as his method for creation. This I believe to be the worst of all possibilities. It is one thing to believe in evolution; it is quite another to blame God for it. Indeed, theistic evolution is a contradiction in terms—like the phrase “flaming snowflakes.” God can no more direct an undirected process than he can create a square circle. Yet this is precisely what theistic evolution presupposes. Modern Christians too often buy high and sell low—just as neo-Darwinian evolutionism is fighting for its very life, it is being propped up by an irrational hypothesis. *Theistic Evolution* is the most thorough and incisive refutation of this dangerous presupposition. I strongly recommend this volume!”

Hank Hanegraaff, President, Christian Research Institute; Host, *Bible Answer Man* broadcast

“This volume is the most comprehensive study on the relation between evolution and Christian faith I have discovered so far. While opening up fascinating firsthand insights into cutting-edge scientific results, at the same time the book treats the reader to a bird’s-eye view, asking the fundamental philosophical and theological questions and delving into the underlying worldview assumptions. It provides a very substantial contribution to the ever-ongoing dispute between naturalism and Christian faith in the areas of philosophy, theology, and the sciences.”

Alexander Fink, Director, Institute for Faith and Sciences, Marburg, Germany

“Essentially, theistic evolution says Charles Darwin and Richard Dawkins got the science right, but that God is still somehow involved. Putting this view into the crosshairs, this book argues convincingly that the science of evolution is in fact wrong, and that any theistic gloss one puts on it is thus doubly wrong.”

William A. Dembski, Former Senior Fellow, Discovery Institute; author, *Intelligent Design: The Bridge Between Science and Theology*; *The Design Revolution*; and *Intelligent Design Uncensored*

“*Theistic Evolution* is a major contribution to the very lively debate of exactly how to understand the ‘data’ from God’s revelation of himself in his Word with the ‘data’ from his revelation of himself in his world. Previous contributions to this debate have generally focused on the data from either science or Scripture. *Theistic Evolution* benefits from its comprehensive analysis from theologians, philosophers, and scientists in the same book. Whatever are your current views, *Theistic Evolution* will provide analysis from some of the most prominent critics in this conversation that should be helpful to people on both sides of this debate.”

Walter Bradley, Former Professor of Mechanical Engineering, Baylor University

“The question of origins rarely fails to attract interest, not least because it is overloaded with worldview implications. For too long the increasingly shaky modern ‘Darwinian’ synthesis has been accommodated into theological thinking. This remarkable book exposes how scientifically and philosophically preposterous the notion of theistic evolution really is. An authoritative and vital contribution to the topic!”

David J. Galloway, President, Royal College of Physicians and Surgeons of Glasgow; Honorary Professor, College of Medical, Veterinary and Life Sciences, University of Glasgow